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# Two Lectures
ON
# UNICELLULA CANCRI:
## THE PARASITE OF CANCER.

*Delivered before the Royal College of Surgeons of England*

BY SIR HENRY BUTLIN, BART., F.R.C.S.,
PAST PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; HUNTERIAN PROFESSOR.

### LECTURE II.*—THE PARASITE OF CANCER.

MR. PRESIDENT AND GENTLEMEN,—It will now be convenient to consider how far the theory advanced in the previous lecture will account for the phenomena of malignant disease, as we know them in man and animals. Dr. Charles Powell White, in his lectures on the Pathology of Cancer,[1] says:—

> We can say, then, that cancer is not due to a specific parasite or parasites, but, on the other hand, we can say that cancer cells themselves act as parasites. This view will explain all the phenomena of cancer.

And Dr. James Ewing, in his Cancer Problems,[2] says:—

> The whole basis, objective and theoretical, of the cancer parasite has been traversed again and again, with the uniform conclusion of those who finish the journey that the cancer parasite is the cancer cell.

Dr. White's statement is general and sweeping, but I believe it to be in the main correct, although I am not aware of any detailed analysis on which it rests. So far as time will permit I propose to supply the deficiency.

There are two great phenomena of malignant disease (cancer) which overshadow all the others, and to which most of the other phenomena are subordinate, and on which they are more or less dependent: (1) the tumour and (2) the metastases. The tumour may exist without metastases, and there are reasons for believing that metastases may exist without the presence of a tumour.

#### 1. THE TUMOUR.

The tumour is the primary disease, so far as we know it. Until a very few years ago the presence of a mass was regarded as an essential to the diagnosis of malignant disease. Now we know that the primary—the initial—lesion of cancer (I use the word as synonymous with malignant disease) may exhibit nothing more than a really trivial thickening of a small area of the skin or mucous membrane. From this trivial beginning arise all the various phenomena which go to make up the history of a case of cancer, and from it originate all the misfortunes and sufferings of the individual—the host. For, if this tiny area be examined with the microscope, it will be found to be composed of cancer cells, which are either massed together, as if without law or order, or which may, on the other hand, be arranged with singular and wondrous skill, so that the appearance of the disease may closely simulate that of a natural tissue or organ of the body. (Fig. 6.) There is also provision for the maintenance of the cells, in the form of vessels, and often of scaffolding or framework, in which the cells are arranged. And there are usually numbers of other cells—leucocytes, lymphocytes, granulation cells for the most part—in the outskirts of the tumour. So that the mass is made up of several elements, of which the essential element is the cancer cell. All the conditions connected with the tumour depend, directly or indirectly, on the behaviour of the cancer cells.

*Phenomena of Cancer Growth.*

The cells may fail to maintain themselves, in which case the tumour comes to an untimely end. They degenerate, shrink, waste, die, and are devoured by phagocytes. How often this happens no one can conjecture, but probably much more frequently than is supposed.† On the other hand, the cells may thrive, may grow and multiply, in which case the tumour extends its area. When it occurs in the substance of an organ, such as the breast, it may become quite a large lump, or if it occur in a limb around the bone it may attain an enormous size. Examine the structure of such a mass, and you will find that the cancer cells and framework have taken the place of the tissues which ought to be there. Fat, fibrous tissue, muscle, have disappeared, or are broken up and separated by groups and masses of cancer cells with their framework. Examine the tissues beyond the apparent limit of the tumour and you will often find isolated cells or groups of cells between the muscular fibres or in the minute or larger lymphatics.[3] (Fig. 8.) And you may find little

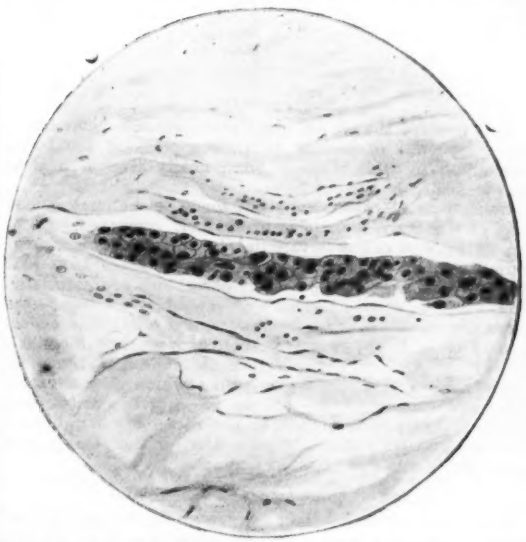

FIG. 8.—Lymph vessel filled with cancer cells (lymphatic permeation, from Sampson Handley), Cancer of the Breast, Pl. III, London, 1906.

masses of cancer cells projecting into the lumen of a blood vessel, the wall of which may be destroyed or still unbroken.[4] (Fig. 9).

These conditions are not discovered in all cases of malignant disease, even in all cases of the same variety of cancer of the same part of the body. In some cases not a single isolated cell or group of cancer cells will be discovered in the tissues beyond the apparent limit of the tumour. I do not say they are not there, but they are not recognised, so that they cannot be either large or characteristic. Where they are found, however, they may directly produce new phenomena, for a single cell or group of cells may grow to form a mass in the midst of the muscle or tissue where it lies.

*Destruction of Natural Tissues.*

The advance of the tumour is characterised by one great phenomenon—destruction. Every tissue which it attacks is destroyed, and replaced by the cancer cells and their suite. Hard tissues, soft tissues, vascular tissues, and tissues without vessels, are all destroyed—not all at the same pace or all precisely in the same manner. For such tissues as cartilage and elastic tissue resist the attack much longer than soft tissues, and even than bone. There is also indirect destruction of tissue whose nutrition is interfered with by the growth of the tumour. If the tumour makes its way towards the surface, the epidermis is raised and stripped off, and the mass of cancer cells is exposed. With the exposure of the cells a new series of events may be expected. Micro-organisms, bacteria and bacilli, gain access to the cancer cells. Sepsis, suppuration, ulceration, and sloughing take place, and the condition of the host is seriously prejudiced by these occurrences, which may even compass his death. Sometimes the tumour may shrink, and even when it is adherent to the skin may not break through. It undergoes atrophy from the wasting and death of the cells in its central parts. But it is not cured; for while the centre dies or withers the margin often flourishes and widens.

*Resemblance to Attacks by Parasitic Protozoa.*

In all these circumstances which attend the growth and development of the tumour there is nothing which

* Lecture I. was published in THE LANCET of Nov. 25th, 1911, p. 1457.
† Dr. Clowes spoke to me of this on the journey up from the meeting of the British Medical Association at Exeter in 1908, and suggested to me that recovery from an attack of cancer is probably not so very infrequent.

does not equally occur in the attacks of certain parasitic protozoa on their hosts—for instance, *Myxobolus cyprini* invades, destroys, and takes the place of the kidney epithelium of the carp; *Myxobolus pfeifferi* destroys and takes the place of the muscles of the barbel. It is the same story, common to both the cancer cells and to the protozoa which are not toxic—destruction of the natural tissues and their replacement by the cancer cells or parasite. And just as the masses formed by cancer cells are attacked by bacteria, and break down and ulcerate when they are exposed, so do the masses formed by *Myxobolus pfeifferi* break down from similar causes when they reach the surface of the body and are exposed. (Fig. 2.) All these phenomena of the tumour are perfectly intelligible if the cancer cell is accepted as an independent organism, pursuing the two great objects which are pursued by the parasitic protozoa—maintenance of itself and continuation of its species.

## 2. METASTASIS.

And now for the second great phenomenon—metastasis—the occurrence of masses in various parts of the body, resembling in their elements, and nearly always in their arrangement, the tumour.‡

Collections of cancer cells are found, sometimes in one part of the body, sometimes in another, composed, not of cancer cells of different varieties, but of cells of the same variety as those which compose the tumour. (Figs. 10 and 11, Figs. 12 and 13.) Wherever they occur they are associated with the same conditions as are observed in the tumour—the formation of vessels and a framework, and a satellite collection of other cells (leucocytes, lymphocytes, and the like). The grouping of the cancer cells is the same, the substances which they secrete, the degenerations which they undergo, the mode of reproduction—all are those of the cells of the tumour. Every metastasis is, as the Director of our Cancer Research has truly said, a reproduction of the tumour, and corresponds with the results of implantation.

### *Mode of Conveyance of Cancer Cells.*

It is due to the presence of cells from the tumour in those parts of the body in which the metastases occur. On this matter there is practically no difference of opinion, nor is there any serious difference of opinion on the coarse mechanism of metastasis. The cells may be deposited on a surface which is constantly or frequently in contact with the tumour, may become fixed there, and may grow and multiply (auto-inoculation). They may be conveyed in the air or in the food, from the larynx to the lung, or from the stomach to the intestine, and may form metastases in either place. But these are exceptions to the general rule, and are of rare occurrence. The metastases which we see daily are due to the penetration of the cancer cells into the interstices of the tissues or into the lymphatic vessels, along which they spread, and to conveyance by the lymph and blood. They can often be easily demonstrated in the tissues, between the fibres of voluntary muscle, for example, and in the lymphatics. But it is well-nigh impossible to detect them in the moving blood and lymph, probably because it is the young and least characteristic cells which are conveyed, and there is so little to distinguish them by, especially when they are on the move. In spite of the absence of direct evidence the circumstantial evidence in favour of conveyance in the blood and lymph is so strong that it is not questioned, and I need not occupy time by repeating it.§

### *Variation in Number and Seat of Metastases.*

Seeing the variety of the mechanism of metastasis, it is only reasonable to expect that there should be some variation in the number and seat of metastases. And so, indeed, there is. Sometimes the metastasis is limited to a single tiny nodule in a distant organ, sometimes to a few tiny nodules within a limited area; sometimes it is greater in bulk than the tumour, and sometimes it seems as if it had been scattered broadcast, without order or method. Nor is there greater uniformity with regard to time than in regard to seat and size. Metastasis may be present at the moment the tumour is discovered, or it may be deferred for years, or it may never occur in cases in which it ought to. No wonder such variations have been a puzzle to those who study cancer, particularly to the experimental investigators. It seems so inconsequent, so void of method, that it has led one of the most able investigators of the present day to aver that the study of cancer in man and animals is rendered peculiarly difficult by the extraordinary variety in the histology and clinical behaviour of the malignant new growths which attack them.[5]

### *Necessity for Separate Study of Each Variety of Cancer.*

I do not agree with this statement. It rests on a misapprehension, on a false conception of cancer, on imperfect observation, and on the manner in which the life-history of cancer has been studied. If all varieties of cancer in all kinds of animals are studied higgledy-piggledy—squamous carcinomas, spindle sarcomas, spheroidal carcinomas, myeloid sarcomas—in man, and mice, and dogs, and rats, it is perfectly correct. It would be equally true of the parasitic protozoa if they were studied in similar fashion. If Sarcosporidiidæ, Myxosporidiidæ, Coccidiidæ were all jumbled together, and an attempt were made to describe the histology and clinical behaviour of the jumbled mass, the result would be confusion and profound perplexity. But no naturalist thinks of studying them in such a fashion. Each family is studied separately—not only each family, but each variety—and the characters and life-history of each is gradually deduced with clearness. Precisely the same method must be directed to the study of the organisms of cancer. Each must be studied separately. For more than 30 years I have insisted on the necessity of the separate study of each variety of cancer in the part in which it occurs.[6] And Mr. Stephen Paget more than 20 years ago, in an excellent paper in THE LANCET,[7] showed the necessity for this same separate study, particularly in relation to metastasis. To some extent this has been done by the clinical pathologists, and here are some of the results.

### *Some Characteristics of Different Types of Cancer Cells.*

Take, first, a *round-celled sarcoma*. Let it be of the femur and subperiosteal. It grows very rapidly and is one of the most surely fatal of diseases. Amputate the limb above it, far above it, and take the bone out at the socket. It is, nevertheless, likely to return in the muscles of the stump. And even if it does not do so the patient will almost inevitably die from metastasis, even if the tumour was removed as soon as it was discovered.

Of all places the lungs are most likely to be the seat of the metastases. The femoral and inguinal glands are not usually affected. But metastases may occur in distant lymphatic glands, in the skin and subcutaneous tissue, in the liver—indeed, almost everywhere. Most of the patients are dead within a year or 15 months. And the instances in which a patient can be claimed to have been cured of this most terrible variety of cancer are so few that they can be counted in units.‖

Now, take a *spindle-celled sarcoma* of the testis—also a very deadly disease, but not to be compared in this respect to subperiosteal sarcoma of the femur. It forms a tumour, often large, in the cavity of the scrotum. It is easy to remove it, and there are many instances in which there is no recurrence in the stump and the patient is cured by the operation. But there are many more cases in which, at the end of an indefinite period—perhaps a year, two years, or more—a mass is discovered in the abdomen, which grows until it kills the patient. It is formed by metastasis in the glands, in the liver, and other viscera of the abdomen.

Take a *spheroidal-celled carcinoma* of the breast. The metastases will occur first and chiefly in the glands of the axilla, then in the liver and lungs, but particularly in the liver.[8] They may attack the bones—the sternum, the humerus, the femur, and the vertebræ—particularly the vertebræ of the lumbar region. And if the disease recurs

‡ Almost all the knowledge we possess of metastasis—in any case, the useful knowledge—is the result of clinical pathology, not of experimental observation or of laboratory investigation. This is, in itself, so good an excuse for the continued pursuit of clinical pathology and so admirable an illustration of its use that it alone would suffice to encourage clinical pathologists and to furnish proof that the day of clinical pathology is far from set.

§ There is really only one point on which there is grave doubt—whether the cancer cells are mere passive bodies in their migration or whether they are active agents (Bland-Sutton, Clinical Journal, 1910). As this does not affect the argument it is not necessary to discuss it now.

‖ Dr. Coley claims to have cured some cases of subperiosteal sarcoma of the femur by his injections. We have not been very successful in this country, and I only hear of a very occasional success from the use of Coley's fluid. But it is probable Dr. Coley and his pupils are more skilled in the management of the fluid than the English and continental surgeons.

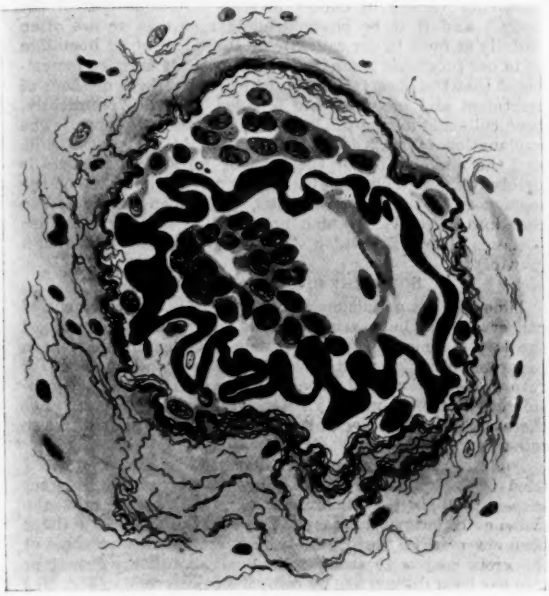

FIG. 9.—Cancerous infiltration of vessel wall (E. E. Goldmann). Studien zur Biologie der Bösartigen Neubildungen. Taf. IV., Tübingen, 1911.

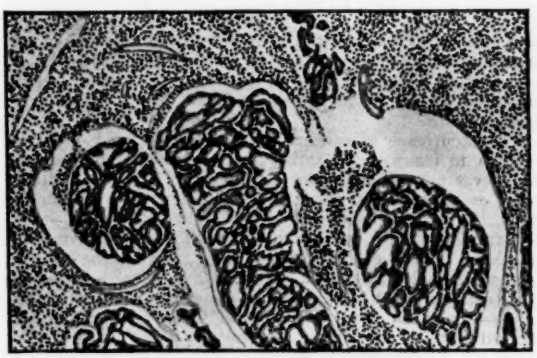

FIG. 11.—Glands removed from same case (10)—duct cancer—at same time.

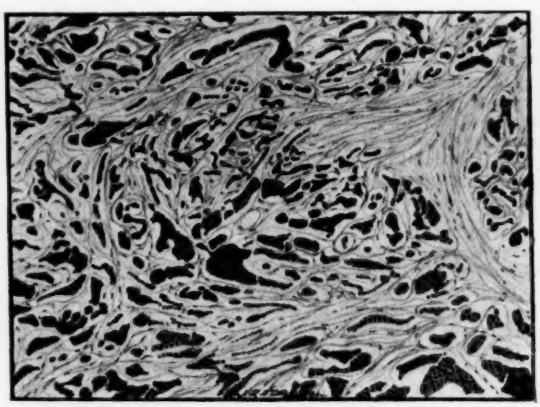

FIG. 13.—Recurrent nodule removed from muscle of same case (12). Removed October, 1900; patient well in 1906.

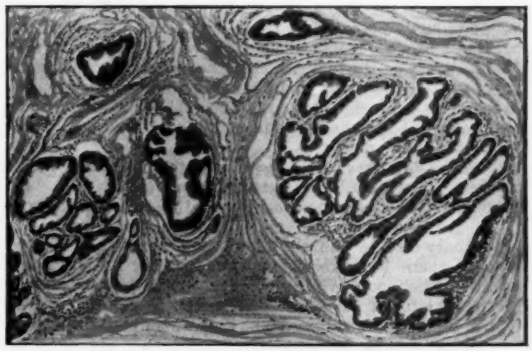

FIG. 10.—Duct cancer of breast.

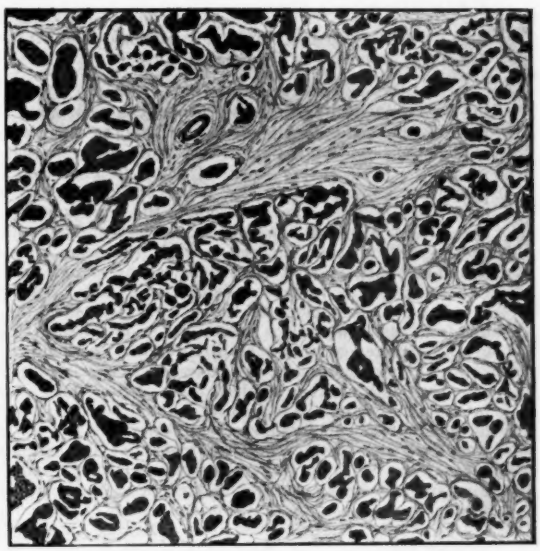

FIG. 12.—Spheroidal carcinoma of breast, removed December, 1896.

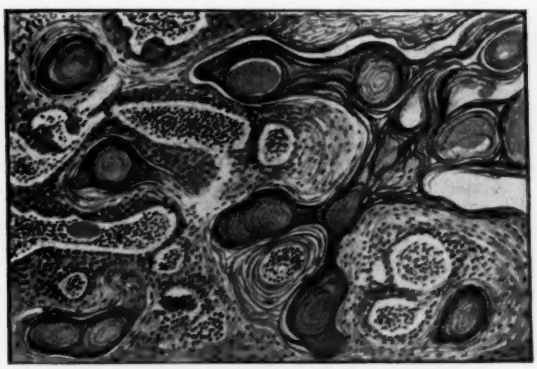

FIG. 14.—Squamous-celled carcinoma of the groin glands of a chimney-sweep, in whom no primary disease was discovered. This case is published by Dr. John Stacy, of Norwich, in the British Medical Journal, 1892, vol. ii., p. 578. After the death of the patient Dr. Stacy sent me slides cut from the glands. I do not know whether any similar case has been drawn.

*in situ*, it frequently forms numerous little flat nodules or plaques in the skin and subcutaneous tissue.¶ If the breast and glands are removed there may be no distant metastases. But the pathologist would be a bold or ignorant man who would assure the patient that the disease would certainly be cured by the operation. Again, take a *columnar-celled carcinoma* of the rectum. The metastases will be in the abdominal lymphatic glands and in the liver, in preference to any other part.

Take *squamous carcinoma* of the tongue, where the limitation of metastasis becomes much more restricted. It takes place in the neighbouring lymphatic glands, and sometimes in the glands on the opposite side of the neck. If the primary disease and the glands are successfully removed, so that there is no recurrence in tongue or glands, there is so little likelihood of distant metastases that they are practically left out of the account. The possibility is admitted, but the event is so infrequent that we do not fear it.

Finally, take *rodent ulcer* of the face. The extension of the disease beyond its apparent limit—the destruction effected by the cells—their tenacity of life and power of multiplication—have long assured for rodent ulcer a place among the malignant tumours. But the cells of which it is composed seem to be quite incapable of flourishing in any other parts than the immediate neighbourhood of the tumour, and there are no metastases. I do not say that metastasis never takes place, but it is so rare that its occurrence is not provided for in the pathology of the disease.

### *Similarity of Courses run by each Variety of Cancer.*

Every case of a particular variety of cancer of a particular part of the body does not run precisely the same course as every other case of the same variety of cancer of the same part. Nor does every case of parasitic protozoon of a particular animal run precisely the same course as every other case of the same protozoon in the same animal. But compare a hundred cases of squamous carcinoma of the tongue with another hundred cases of the same disease of the same part, and let the conditions be similar for each hundred cases as regards operation, &c., and I venture to say that the resemblance of the second hundred to the first hundred cases would be marvellous. I am sure that no greater differences would be discovered than would be discovered if one hundred cases of *Sarcocystis miescheriana* were compared with another hundred cases of the same parasite in the same animal, and not so much difference as would be found if one hundred cases of *Myxobolus pfeifferi* were compared with another hundred cases, but the barbel were taken from two quite different streams. In the same way compare a hundred cases of carcinoma of the breast with another hundred cases of the same variety of carcinoma of the same part, and see how little difference there will be between them.

When studied in this fashion the results are so constant that we, the surgeons, presume upon them. We trade on them. We do not remove the lymphatic glands in cases of rodent ulcer because we are confident, however long the disease has existed, the glands will not become diseased. And we are equally confident that there will not be metastasis in any other part of the body. We remove the primary tumour and the associated glands for squamous carcinoma of the tongue, with the full assurance that if the operation is successful in preventing occurrence or recurrence in those structures, we shall save the lives of many of our patients. We amputate the breast, remove the muscle and the contents of the axilla, and dissect away wide areas of the fascia for spheroidal carcinoma. When the disease is not extensive or rapid in its course we expect to save the lives of more than half our patients. But we have not the same hope of the result of a successful operation as we have if the operation is successful in rodent ulcer or in squamous cancer of the lip. For the spheroidal cell may thrive and multiply in the liver, the lungs, and bones. And this may happen five or six or more years after the successful removal of the breast and the associated structures.**

So with regard to other varieties of cancer in various parts of the body. In all cases our treatment is adapted to what we know, or believe we know, of the course of that particular variety of cancer in that particular part of the body. And if it be charged against us that we are often wofully at fault in our estimate of the effect of an operation or in our prognosis of an individual case, it must be remembered that the observations on which our present methods of treatment and prognosis are founded have all, practically, been collected during the last 40 years or little more. The explanation of metastasis is migration of the cancer cells, and the explanation of the seat of metastatic tumours is precisely that which explains the occurrence and seat of the metastases of the parasitic protozoa—the penetration of the cells into those places which are suitable to their existence—those places in which they can live and thrive and multiply.

¶ The mechanism of these metastases has been very well described by Mr. Sampson Handley in his book on Cancer of the Breast.

** In speaking of "successful operations" in the preceding paragraphs, I hope it will be understood that I am only referring to the success of the operation in preventing recurrence in the parts which were diseased.

### SOME PHENOMENA OF CANCER.

Time will not permit me to deal with all the phenomena of cancer as they have arisen before my mind in the course of the last few months, during which these lectures have been in preparation. I shall have to reserve some of them for future publication, and I shall also have to reserve the consideration of this theory as a working theory of cancer. But there are two or three phenomena to which I should like to refer.

The first has puzzled many pathologists for many years. I tried to explain it more than 20 years ago with indifferent success.[9] It is the occurrence of metastases without the evidence of primary disease. The best examples of it have been observed in the occurrence of squamous carcinoma of the groin glands in sweeps, in whom no primary growth or sore has been discovered by competent observers. (Fig. 14.) I suggested that the primary disease had "aborted"—in other words, got well—but not before some of the cells containing the material of cancer had been conveyed to the lymphatic glands. My explanation was very near the truth. That cancer should "abort"—get well—was not much in the minds of pathologists 20 years ago. To-day everybody knows that it does get well, both in animals and human beings,[10] and many of us are prepared to believe that it gets well much more commonly than we know of at present. But in these cases before it does so some of the cancer cells have already migrated to the groin glands and have made good their footing there.

The occurrence of ossification, calcification, and chondrification in many of the sarcomata, is a phenomenon which has never puzzled me when the tumour is connected with a bone, or when the metastasis is of a tumour growing from a bone. It seems natural—only what might be expected—that the framework of such tumours should contain bone or cartilage. But I confess it has puzzled me when the tumour is of a part which has no connexion with bone or periosteum. For instance, such a tumour is sometimes—though very rarely—found in the female breast. Why should cells derived from the glandular or connective tissue of the breast command a framework or scaffolding in which bone or cartilage cells are prominent constituents? Bashford explains it on the grounds that such conditions occur in association with inflammatory processes. He shows how frequently it occurs in mammary tumours in the dog, and says:

> It seems to demonstrate that the connective tissue of the dog is very liable to such metaplastic changes, just as the connective tissue of the rat or of the mouse is liable to the changes characteristic for these animals.[11]

There is one phenomenon of cancer which no theory explains—the constancy with which spontaneous cancer begins at one point instead of many. It can scarcely be made to fit in with the theory of "removal of restraint," but it does not threaten the stability of this, or many other theories. At present I have no explanation to offer of it.

### APPLICATION OF THEORY.

Reviewing, in a few sentences, the application of this theory to the phenomena of cancer, I will not undertake to affirm that all the known phenomena of cancer can at once be explained by it, but it *does* offer a ready explanation of the first great phenomenon of cancer—the tumour—and of all the changes which may occur in it. It offers an explanation of metastasis, the other great phenomenon of cancer; of the reasons why it occurs; why it occurs in one place rather than in another; of deferred metastasis; of metastasis without primary tumour. In fact, it explains so simply so many of the phenomena of cancer that it is necessary to make diligent search to discover the two or three phenomena which are

not explained by it. And of these it may be said that there is not one of them which endangers the acceptance of the theory, and that they are equally inexplicable by any other theory which has yet been advanced. It fulfils also the conditions laid down by a writer in the *British Medical Journal*,[12] who pointed out that, to make my case good, my parasite must be tried by the laws laid down by Koch—to wit, "A specific micro-organism must be constantly associated with a given disease; it must be isolable and studiable apart from the disease, and when introduced into a healthy animal it must be able to reproduce the disease in that animal, and in the animal in which the disease has thus been experimentally reproduced the organism must be found under the original conditions." It fulfils these conditions with a fidelity which is remarkable. The only one of them on which any dispute could arise would be whether the cell is "isolable and studiable apart from the disease" in the sense in which Professor Koch used the expression. If that is all that is lacking we are not likely to have to wait long for it. Indeed, Carrel and Burrows maintain that they have already solved that problem in the Rockefeller Institute of Medical Research.††

I now come to the last part of my task:

### WHERE DOES THE CANCER CELL COME FROM?

Six years ago[13] I summed up the evidence in favour of the only two views which could reasonably be put forward: *Entrance from without* or *formation within* the body; and came reluctantly to the conclusion that the evidence of "formation within" was stronger than the evidence in favour of "entrance from without." I say "reluctantly," because it led to the logical conclusion that new species of living creatures are created from a source and in a manner which has never hitherto been imagined. Nevertheless, during the last six years the evidence in favour of "formation within" the body has grown steadily stronger, while nothing has been added to the evidence in favour of "entrance from without."

#### *Evidence of "Formation within" the Body of Cancer Cell.*

I cannot stop to dwell on the points of each piece of evidence, but must content myself with enumerating them:—1. The resemblance of the cancer cells to those of the natural tissues in which the cancer appears to start. 2. The resemblance of the secretion of the cancer cells to the secretion of the natural cells. 3. The resemblance of the degenerations of the cells to those of the normal cells (fatty, caseous, calcareous, &c.). 4. The resemblance of the grouping of the cells to the grouping of the natural cells. 5. The resemblance of the phenomena of reproduction in the cancer cells to those of the natural cells which they resemble. All these may be regarded as traits of atavism, and it is upon these that the explanation of some of the phenomena of cancer rests.

#### *Explanation of Conduct of Cancer Cell.*

Students of cancer, research workers, biologists who have studied cancer, are all practically agreed that the cancer cell is derived from the cells of the part in which it takes its origin, or appears to take its origin, and they are bent on finding an explanation of the reasons which lead the cancer cell to behave so differently from the cells from which it is derived. Escape from natural restraints—the acquirement of the habit of growth—the theory of embryonic rests—chemical stimulation—a self-contained and ordinarily invisible micro-organism living in symbiosis with the cell—these are some of the theories by which learned men have sought to explain the strange conduct of the cancer cell.

Empty phrases! They might account for variations in colour, size, shape, secretion, degeneration, physical activity—for a multitude of the variations from the normal cell exhibited by the cancer cell—but how can any of them account for the vital difference which I will express in two short sentences? Implant the normal cell, and you cannot make it live. Implant the cancer cell, and you cannot kill it.

There is one, and only one, explanation of the conduct of the cancer cell—that it has been endowed with that wondrous gift which no man has seen and which no man can understand—the gift of life; and that, owing to that gift, it has become an independent creature, a new creation of living thing. The host in which it dwells has fashioned it out of his own tissues and in the likeness of his tissues and, to borrow the figurative language of Scripture, the Creator has breathed into it the breath of life, and it becomes a veritable Frankenstein's monster, bent on the destruction of its host. After ages of past and present civilisation, during which searchers and philosophers have sought to explain the origin and nature of life, we have come no further than this, and he who discovers the true origin of cancer will have solved the enigma which has hitherto baffled the searchers and philosophers in all ages and of all countries.‡‡

#### *"Unicellula Cancri."*

If the cancer cell be in truth a new creature, to what class of creature does it belong? It is nearest to the protozoa—so near, indeed, that it is difficult to keep it out of the protozoa. Every new observation of the last six years—every new discovery—has brought it nearer to the protozoa. But the biologists will have none of it. I must therefore make a special place for it and provide it with a name. It shall be *Unicellula cancri*. And for the different varieties the shape of the cell can be expressed in simple terms which will be familiar to us all. On the one hand, *Unicellula (cancri) squamosa*, *Unicellula spheroidalis*, &c.; on the other hand, *Unicellula (cancri) fusiformis*, *Unicellula rotunda*—and so on. These names will serve still, even if the cells eventually join the great phylum of the protozoa.

I am perfectly conscious of the far-reaching consequences of admitting that unicellular bodies derived from such a source are a new species of created beings, but there is no alternative. The facts are plain, and cannot, I believe, be otherwise interpreted. If the theory is false, I can only say it is very remarkable that it should explain, in so satisfactory a manner, the chief and nearly all the subordinate phenomena of cancer.§§

#### *A Parable.*

In conclusion, I should like to tell you a parable. A learned professor, walking in the desert, observed a curious little object on the ground. It had a rounded snout and flattened head, large eyes, a flattened body, short fore-legs and very long hind-legs. It sometimes walked and sometimes jumped. The professor asked whence it came, and it replied: "I am a child of the desert, born of the grains of sand." This astonished the learned man. He took it home with him, and called together many of his friends, and set the little beast in their midst. They all looked at it, and said it must be a frog, for it looked like a frog, and behaved like a frog, particularly in its ability to jump. But when they heard its origin they were all amazed, and each one gave his explanation of the occurrence. One said, "It is a changeling; it is not what it looks to be." Another said, "It was surely made to swim, for its feet are webbed, and having no water to swim in it has acquired the habit of jumping." A third said, "It has been gingered." A fourth said, "Some restraint must have been taken off it to enable it to jump." And the professor himself said, "No, it has a flea inside which lives within it as its familiar spirit, and that gives it the power of jumping." Then the professor said to the little object: "We are very sorry for you. You are neither animal nor vegetable, for neither animal nor vegetable can be created from the sands of the desert. There is, therefore, no place for you among living creatures." The little creature jumped and crawled away. But as it did so it looked back at the group of learned men, and said: "There is no place in the living world for me owing to the misfortune of my birth. Thank you, gentlemen, but I have already found a place for myself, and you will find it very difficult to oust me from it."

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†† Alexis Carrel and Montrose Burrows, Journal of the American Medical Association, 1910, vol. lv., pp. 1379, 1554, 1732. Mr. Arbuthnot Lane told me he had seen the specimens of growing sarcoma cells in the Rockefeller Institute.

‡‡ "No power of genius has ever yet had the smallest success in explaining existence."—Emerson, Representative Men. London: Macmillans, 1893, p. 314.

§§ Mr. Darwin, in the last chapter of the Origin of Species, says: "It can hardly be supposed that a false theory would explain, in so satisfactory a manner as does the theory of natural selection, the several large classes of facts above specified. It has recently been objected that this is an unsafe method of arguing, but it is a method used in judging of the common events of life, and has often been used by the greatest philosophers."—Origin of Species, sixth edition London, 1889, p. 421.

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# THE FIRST AND LAST KINK IN CHRONIC INTESTINAL STASIS.[1]

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I AM very conscious of the honour you have done me in asking me to address you on this occasion. I have chosen the subject of chronic intestinal stasis since it has occupied my attention for many years, and because it promises to throw a great light upon disease. The causation of intestinal stasis, its symptoms, and the deleterious influence it exerts on the several tissues of the body, are full of interest for us. In a communication of this sort one must necessarily go over much material recapitulated many times before, but this is, I fear, unavoidable in the circumstances.

By chronic intestinal stasis I mean such a delay of the contents of the gastro-intestinal tract as involves the absorption into the circulation of a quantity of toxins greater than can be dealt with effectually by the organism. This condition of defective drainage may affect any portion of the gastro-intestinal tract, and in a degree which varies considerably with the locality of the obstruction. While the delay may be general there is usually one point where the obstruction is more marked than elsewhere. Sometimes the obstruction may be definitely local. It is purely mechanical in character. In early life it is produced by abnormal distension of the intestine as a consequence of too frequent feeding and of unsuitable articles of diet. Later it is determined and exaggerated by the erect posture of the trunk, which in our state of civilisation is constant during our waking hours.

I wish now to call attention particularly to the great importance of the last kink or obstruction which is developed in our drainage scheme and which affects the large bowel where it crosses the brim of the true pelvis on the left side. The fuller recognition of the function of this kink, the lowest in position, has helped me to understand the physiology of the large bowel both in the savage and civilised communities. It has also enabled me to deal surgically with the conditions of defective drainage of the intestine more effectually and at less risk to the life of the individual than I was previously able to do. This kink develops very early in life; indeed, I believe the bands which form on the outer surface of the mesentery of this portion of the large bowel, and which, like all the other acquired mesenteries and adhesions, are the crystallisation of lines of resistance to downward displacement, are the earliest to form in the body. They appear before the erect posture is assumed. I have found them excellently developed in a child 2 years of age whom I short-circuited for extensive tuberculous disease of the hip-joint. This band obviously develops in order to resist the tendency to the downward displacement of the large bowel into the true pelvis, where it would seriously incommode the functioning of the several organs which already occupy it. As this new band or mesentery contracts and becomes a definite ligament quite distinct from the normal mesentery, on whose outer aspect it exists, it fixes the large bowel securely at this level and performs a function of the greatest importance. It is so arranged as to oppose the backward passage of fæces from the pelvic colon upwards into the large bowel, which is likely to take place if this kink or obstruction is not efficiently developed. It is often supposed that fæcal matter moves continually onwards in its progress through our intestines. That this is not always so is shown exceedingly well in those cases in which this particular kink or obstruction is not developed.

When I first performed ileo-colostomy for chronic intestinal stasis I divided the ileum and put it into the sigmoid loop, as it was usually the portion of the large bowel most readily and safely adapted for the performance of this operation. At the same time I took great precautions to free that obstruction at the pelvic brim to which I have just called your attention by dividing the new mesentery and by suturing it over in such a way as to try to obviate its re-formation. This operation was frequently followed by the passage of material back along the descending, transverse and ascending colon to the cæcum, often necessitating the removal of the large bowel at a later date. Owing to the recognition of this fact I then removed the large bowel down to a level of the junction of the ileum with the sigmoid, performing both operations at the same time. The only objection to this operation was the occasional development of adhesions between the small intestine and the abdominal parietes. When these adhesions develop they are liable sooner or later to cause symptoms of obstruction, as manifested chiefly by pain and distension. If it were not for the occasional development of these inflammatory adhesions the operation of the removal of the large bowel would be accompanied by little or no risk.

It was clear that if I could obviate the back flow of fæcal matter into the large bowel above my junction I would avoid the removal of the colon in a great number of cases and reduce very materially the risk of the operation. I then determined to effect a communication between the ileum and the large bowel in the true pelvis below the level of the last kink. This I found most successful. In many cases the operation was very easy to perform, since, in a large number of cases, the stasis is due chiefly to a progressive elongation of the pelvic colon. This elongated rectum puddles in the floor of the pelvis, and its contents are expelled with the greatest difficulty by any increase of the intra-abdominal pressure, however great the expulsive effort, since it acts at such a mechanical disadvantage. In consequence of this arrangement the rectum elongates very considerably. In a child operated on for extensive tuberculous disease of the hip the loose pelvic colon measured about 39 inches.

I believe that no one can become affected by tuberculous disease or by rheumatoid arthritis unless the resisting power of the individual to the entry of organisms has been depreciated by auto-intoxication consequent on the presence of chronic intestinal stasis. So in these conditions, and especially in the case of progressive tuberculous affections of joints, I employ no local operative procedure to the affected joint other than rest, and, if necessary, aspiration of any fluid material that does not readily become absorbed after the operation, but proceed to free the patient of the auto-intoxication by putting the ileum into the pelvic colon below the kink at the brim of the pelvis. In these cases the results of the operation have been most successful and the patient has improved both locally and generally. In one case we were surprised to find that the weight of the patient did not increase nor the local trouble improve in the marked manner we were accustomed to expect. The causation of this was readily determined by the X ray examination of the child after the administration of four ounces of bismuth by the mouth.

The systematic examination at frequent intervals of the patient by means of X rays after the administration of six ounces of carbonate of bismuth by the mouth in the adult and of four ounces in the child, is performed in every case before and after operation, every precaution being taken to render the state of the patient as normal as possible. In the case of the tuberculous child which obtained but little benefit for a period from ileo-colostomy, it was found that the fæcal material reached the rectum in the normal time. It accumulated there for a time, but instead of being evacuated a portion commenced to ascend the large bowel, some of it going as far as the cæcum. It was noted in this case at the time of the operation that the acquired band of peritoneum which produces the kink at the pelvic brim had not developed. It seemed as if the child could not be effectually relieved of the auto-intoxication from which she suffered unless the large bowel were removed, or a kink made artificially in its normal position by means of a running suture. Fortunately a regular evacuation of the rectum was obtained by the employment of a glycerine enema and a small quantity of aloes, and we hope in this way to educate the rectum to evacuate its contents, and so obviate the auto-intoxication kept up by the regurgitation of fæces into the large bowel.

I learnt from this case that the kink not only affords an obstruction to the downward passage of fæces from the sigmoid into the rectum, but that its chief action is to

[1] A paper read before the Derby Medical Society on Oct. 17th, 1911.

obviate the ascent of fæces from the rectum, which, I believe, occurs normally to a considerable extent in many people. I have found many patients complain that if they are prevented from evacuating the bowel when they feel the desire they are unable to do so for a long time, sometimes not till the usual time next day. I think it probable that an X ray examination with bismuth will show that in these cases fæces ascend from the pelvic colon into the sigmoid. I therefore determined that when the acquired ligament was absent or imperfect I would construct such a kink having the same position as the acquired band. This I have done by means of a suture passed through the outer wall of the bowel, through the mesentery and through the peritoneum of the iliac fossa. This has enabled me to deal with such patients effectually without exposing the patient to the added risk entailed by the removal of the large bowel.

While in these tuberculous cases the establishment of a direct junction of the end of the ileum with the side of the rectum is performed at little or no risk, and with considerable facility once the details of the operation have been mastered, the formation of the same anastomosis in the case of an adult, especially in a fat male subject in whom the rectum is fixed firmly to the wall of the pelvis and has no sort of mesentery, may be one of the greatest difficulty.

The accurate closure of the peritoneal interval between the ileum and the rectum is a matter of vital importance. I did not at first recognise the necessity of shutting off this interval. It seemed to me that the space between the two intestines was so great that no obstruction could arise however much bowel passed through it. I found that in some cases the operation was followed by frequent motions. This is most unusual, since, owing to the tenuity and laxity of the intestinal walls, it is not infrequently necessary to use paraffin or a drug to obtain a daily evacuation. On opening the abdomen I found that the prolapse of the small intestine into the pelvis had produced a torsion on its long axis of the terminal portion of the ileum where it entered the side of the rectum. This reduced its lumen and so produced the disability which led to frequent and painful evacuations. The closure of the interval between the intestines at once removed the trouble and restored the patient to comfort.

An œsophageal tube is passed up the rectum into the ileum through the junction. This by facilitating the passage of fæcal matter through the junction and by draining the small intestine of its gaseous and fluid contents has served to reduce the risk of this operation to a minimum. It is fastened in position by a suture which in the female is best passed through the back of the labium, since this part is much less sensitive than the skin in the vicinity of the anus. It is retained in position for six days.

As soon as the anæsthetic is commenced several pints of normal saline solution are introduced into the subcutaneous tissue of the axillæ. The absorption of this fluid serves to raise the blood pressure, and so reduce any shock to a minimum. Probably for the same reason the operation is very rarely followed by vomiting. It also serves to nourish the patient till food can be readily taken. It can be repeated without discomfort if necessary. The young child apparently sustains no shock whatever from the operation, and as soon as the period of anæsthesia is passed a distinct improvement in the child's mental condition is patent to everyone. (At the Hospital for Sick Children, Great Ormond-street, where we do a number of these operations on patients suffering from progressive tubercle, and who are distinctly on the down grade, the degree of stasis is determined by bismuth in every case before and after operation. These with the weight charts afford excellent evidence of the benefit resulting from the altered drainage. These are being collected and classified by Mr. Barrington Ward, the medical superintendent. The X ray photographs are taken by Dr. Ironside Bruce.) The bowels act regularly; the appetite improves wonderfully. An appearance of health replaces that of disease, and the weight of the patient goes up in a remarkable manner.

I think I need hardly remind you of the influence exerted by the auto-intoxication of chronic intestinal stasis in the circulatory and cerebral system, as well as on all the tissues of the body. I would allude particularly to the influence on the female breast. I regard the degenerative condition of that organ as manifested by induration, cystic change, &c., as a barometer of the degree of stasis in the individual. The degree of this degenerative change is influenced very materially by the colour of the hair and by the amount of absorption of prostatic secretion. The great importance of this latter factor is one that will sooner or later be impressed on the mind of the profession. I am uncertain whether the administration by the mouth of prostatic extract is likely to afford a result similar to that produced by thyroid extract. It is made in tabloid form by a firm in Chicago, and it is used very largely in the United States and elsewhere. Time will show whether this method of introducing the very stimulating extracts of this organ is of service or not. I have no doubt whatever that these degenerated breasts are very liable to develop cancer. I have found multiple foci of cancer in such degenerated breasts in cases of chronic intestinal stasis in which there was no reason whatever to suspect their presence.

That many find a difficulty in realising the causal relationship of chronic intestinal stasis with these breast conditions and other similar conditions is well illustrated by the elaborate report presented to the International Congress at Brussels by the distinguished French surgeon Paul Segond.[2] While accepting the general principles laid down he takes some exception to the causal relationship of intestinal stasis to what I would call "end results." Dr. F. Lejars also discusses the subject at length.[3] The views he expresses are in accordance with those of Segond. He refers very largely to a very careful study[4] of 50 cases of chronic intestinal stasis made by Mr. Harold Chapple. Mr. Chapple had assisted at a considerable number of these operations, and he had himself thoroughly investigated the career of each up to the date of publication. These form only a portion of the number of cases I have operated on, but they were the only ones that he was at that time able to see and investigate personally. He has also published an account[5] of several cases of progressive tuberculous disease treated by ileo-colostomy.

Before leaving the subject I would remind you of the obstruction that so frequently develops in the end of the ileum and which plays such an important part in the production of the group of symptoms which are regarded by the physician as evidence of indigestion. This so-called indigestion is entirely and solely mechanical in its origin and is chiefly due to the development of this obstruction at the end of the ileum. Besides the minor effects of the damming back of contents resulting from this kink we have the development of the duodeno-jejunal kink, the dilatation and inflammation of the duodenum, the dilatation and inflammation of the stomach, which not infrequently leads to the development of cancer of this organ, the infection of the biliary and pancreatic ducts, followed by the formation of gall-stones, pancreatitis, and by cancer of the biliary ducts and pancreas. This explanation of the causation of duodenal ulcer, &c., shows the futility of gastro-enterostomy except for mechanical obstruction.

I have dealt with this kink and its consequences in several papers,[6] and Dr. Franklin Martin[7] and Dr. Charles Mayo[8] have also published their observations on the subject. The latter paper contains beautiful illustrations of the condition, and I cannot close these remarks without acknowledging the very valuable assistance we have received from Dr. A. C. Jordan, who has done much excellent work in tracing bismuth meals by X rays through our patients. He has written two papers[9] which deal very fully with many of the appearances in chronic intestinal stasis.

Cavendish-square, W.

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[2] Le Traitement Chirurgical des Colites Chroniques, par Paul Segond, Professeur de Clinique Chirurgicale à la Faculté de Médecine.

[3] La Stase Intestinale Chronique, par Dr. F. Lejars, Professeur agrégé à la Faculté de Médecine de Paris. La Semaine Médicale, May 24th, 1911.

[4] Chronische Darmstase, behandelt mittels Kurzer Zirkularer Umschneidung oder Kolektomie. H. Chapple, Berliner Klinische Wochenschrift, April 24th, 1911. Chronic Intestinal Stasis Treated by Short-circuiting or Colectomy: A Brief Study of the Life Histories of 50 Cases. H. Chapple, Brit. Med. Jour., April 22nd, 1911.

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[6] The Kink of the Ileum in Chronic Intestinal Stasis, THE LANCET; Distension Changes in the Duodenum in Chronic Intestinal Stasis, Surgery, Gynæcology, and Obstetrics, March, 1911; The Kinks which Develop in Our Drainage System in Chronic Intestinal Stasis, Brit. Med. Jour., April 22nd, 1911.

[7] The Significance of the Lane Kink of the Ileum, Surgery, Gynæcology, and Obstetrics, January, 1911.

[8] Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum, ibid., March, 1911.

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# THE ASSOCIATION OF HYSTERIA WITH MALINGERING:

## THE PHYLOGENETIC ASPECT OF HYSTERIA AS PATHOLOGICAL EXAGGERATION (OR DISORDER) OF TERTIARY (NERVOUS) SEX CHARACTERS.[1]

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HYSTERIA was at one time, as the derivation of the word from the Greek ὑστέρα (uterus) shows, regarded as a disorder connected with the female sexual organs, but the frequent occurrence of similar symptoms (hysteria being sometimes as pronounced in males as in females) has long since proved that the idea of the exclusive connexion of hysteria with the female sexual organs is absurd.

### *Phylogenetic Aspect of Hysteria.*

Sex characters may be divided into: (1) primary, those concerned with the sexual organs; (2) secondary, those concerned with the breasts, the facial hair, the features, the voice, the form of the skeleton (e.g., the shape of the pelvis and the cubital angle of the outstretched upper extremity), the development of the skeletal muscles, and the general conformation; and (3) tertiary. By tertiary sex characters I mean those dependent on the nervous system, including both characters of instinct and characters of mind (reasoning). Such nervous characters, unlike primary sex characters, are not the exclusive property of either sex; they are called male or female characters merely accordingly as they predominate in one or the other sex. From the phylogenetic point of view I believe that hysteria, or rather much of what is now grouped together as hysteria, may be regarded as a pathological exaggeration (or disorder) of certain tertiary (nervous) female sex characters.

According to this (phylogenetic) conception the exaggeration (or disorder) of so-called tertiary female sex characters in the male would account for occasional cases of "male hysteria." I am not here concerned with the temporary "hysterical" conditions not rarely observed in the male as the result of violent emotions, starvation, and grave nutritive disturbance, or as forming a familiar part of the effect of certain toxic substances such as alcohol. The phylogenetic aspect of hysteria is, as far as I can see, not necessarily opposed to Pierre Janet's, Babinski's, and some other modern views on the subject.

### *Pathomimia.*

I shall not trouble to bring forward any special evidence here to prove that ordinary hysterical symptoms are frequently associated in the same patient with attempts to simulate disease, accident, or injury, and with deception of all kinds ("mythomania," &c.). The fairly frequent occurrence of such association is recognised by all; so much so, that in a recent paper on Hysteria and Mythomania Dupré and Logre quote Hartemberg as maintaining that hysteria (which Charcot called "la grande simulatrice") "est d'essence mythopathique; elle peut se définir la *mythomanie des syndromes.*"[2] Moreover, the frequent use of the term "hysterical malingering" or "hysterical simulation" proves that the occurrence of such associations is generally acknowledged.[3] In fact, hysteria is frequently characterised by two kinds of simulation of disease, or "pathomimia," if I may be allowed to borrow a term suggested by Paul Bourget for his friend Dr. Dieulafoy, who employed it in one of his most sensational medical communications:[4] (1) the unconscious mimicry of disease, so well referred to in the writings of Charcot, Sir James Paget, &c.; and (2) the conscious, more or less voluntary, imitation of disease that may be termed "hysterical malingering."

### *Hysterical Malingering.*

I need simply explain my conception of hysteria and my view of the kind of simulation so frequently associated with it ("hysterical malingering") in order to show what I believe to be the pathological connexion between the two, though it is possible that some of the multitudinous morbid phenomena which have been described by various authors as "hysterical" may find no place in my scheme. To avoid confusion I shall refer only to such universally recognised features or symptoms of hysteria as: (*a*) "functional" muscular paralyses and spasms and hysterical convulsions; (*b*) hysterical pains and paræsthesiæ (hysterical "clavus," "globus," &c.); (*c*) hysterical disorders of the circulatory system (hysterical palpitation, pulse irregularity, and vaso-motor disorders); (*d*) the well-known suggestibility of hysterical persons and loss of spontaneous will-power. I maintain that all these features or symptoms of hysteria can be explained as resulting from pathological exaggeration (or disorder) of tertiary (nervous) female sex characters—characters which, in normal degree, might have been useful in regard to selection by the other sex.

Thus (*a*) and (*b*) may be regarded as exaggerations of the slight ailments to which the "weaker sex" are supposed to be naturally more liable than the "stronger sex," and which call for the sympathetic interest of the protecting males. Some at least of the hysterical symptoms grouped under (*c*) may be regarded as representing an exaggeration of the normal vaso-motor excitability ("erethism" if more than normal) of young females (including facile blushing and responsive emotional changes in pulse frequency), which constitute part of their attractiveness to the other sex. So also (*d*) may be regarded as an exaggeration of the tendency of the female mind to bend to the opinion of (male) authority, a tendency which when recognised as present is (or has been) often gratifying (flattering) to the male.

I now come to the question of "hysterical malingering" and all kinds of deception and simulation without any adequate rational cause. In past ages (from early prehistoric times onwards) simulation or deception of various kinds must often have been serviceable to the weaker female in protecting herself from the stronger (and sometimes cruel) male, as well as in enabling her sometimes to get her own way by "getting round" her male partner. By a natural process of "survival of the fittest" the facility for effective deception would, in a barbarous age, persist or gradually increase in the females—that is to say, it would become a tertiary sex character; and it must be recognised that the average female of the present day seems not to have altogether lost this inborn aptitude for deception.

Of course, deception and "tricks" of various kinds were also often useful to the male in his struggle for life, but they were more necessary to the female, and therefore at the present time the facility (instinct) for deception is probably greater in the average female than in the average male.[5]

In both sexes this tendency to deceive is normally from an early age kept in check by the exercise of memory and reason, but in many hysterics the tendency in question is present in such an abnormal (pathological) degree that it cannot be suppressed. Such persons practise simulation and deception of various kinds without any adequate (rational) grounds, and such "hysterical malingering," hysterical "mythomania," &c., may be justly regarded, I think, as an exaggeration (or disorder) of an instinct resulting by a process of survival of the fittest from the necessities of our primitive ancestors (especially female ancestors). According to this view the greater frequency of such "hysterical malingering," "hysterical mythomania," &c., in women than in men is explained as a result of the fact that the tendency or facility (instinct) for deception is normally greater in women than in men.

### *Relationship of Deception to Hysteria.*

From my point of view, therefore, the intimate relationship of deception (without adequate rational motives) to hysteria is clear. I would, in short, claim that most (but not necessarily all) of the phenomena ordinarily classed under the heading "hysteria" are dependent on a special kind of instability of the nervous system and may be regarded as the

[1] A paper read before the Medical Section of the Royal Society of Medicine on Nov. 28th, 1911.

[2] Proceedings of the Twenty-first Congress of Alienists and Neurologists, 1911, Presse Médicale, Paris, August 12th, 1911, p. 660.

[3] I am about to publish elsewhere two remarkable cases which I have had an opportunity of following over a great number of years and which illustrate the intimate association of simulation and hysteria. Hysterical anæsthesia and hysterical paralysis occurred in both cases.

[4] Communicated to the Paris Academy of Medicine, June 9th, 1908; Presse Médicale, Paris, June 10th, 1908, p. 369.

[5] H. Campbell ("Differences in the Nervous Organisation of Man and Woman," London, 1891, p. 54) writes: "Women, it has been said, are born actors. May not the cunning and dissimulation so frequently found in the hysteric state be in some measure attributable to an innate tendency in this direction, evolved in the manner indicated?"

expression of a pathological exaggeration or disorder of certain tertiary (nervous) sex characters, the presence of which in normal degree can be accounted for on a phylogenetic or evolutionary basis.

Some at least of the normal tertiary sex characters are psychical and are due to hereditary functional properties of the higher central nervous system, functional properties which have gradually developed as the result of sexual selection and the survival of the fittest in past ages. The tendency to simulation and deception (without adequate motive) characteristic of some hysterical subjects may be regarded as an exaggeration (or disorder) of an instinct which is normally greater in women than in men, the greater prominence in women of the tendency or instinct to deceive constituting a normal psychical sex character. Such psychical sex characters, whether normal or hysterical (i.e., exaggerated or disordered), are not acquired by means of memory and reason, but are inborn or developmental "instincts," the term "instincts" being here applied to functional reactive properties of the higher psychical portion of the central nervous system, reactive properties which have been acquired not owing to repeated ancestral, voluntary, or rational efforts, but simply owing to the laws of evolution acting by the survival of the fittest.

Like other instincts (for instance, the instinct of self-preservation) they may be to some extent controlled by the exercise of memory and reason and, on the other hand, may be rendered conspicuous and dangerous to their possessor (or their possessor's neighbours) by influences such as mental and physical overwork and shocks, which weaken the normal rational action of the mind in its restraining influence over the instincts. The therapeutic preventive indications are, therefore, largely educational, but prevention in such matters can obviously only be rendered really effectual by means of sexual selection and eugenics; in fact, just as sexual selection in the past is responsible for the existence of the tertiary (nervous) sex characters and their abnormal variations of the present day, so sexual selection in the present and future will modify the nervous sex characters, as well as all other instinctive nervous tendencies of future generations.

*Concluding Remarks.*

My brief exposition of what I call the phylogenetic or evolutional conception of hysteria, as being due to an exaggeration (or disorder) of tertiary (nervous) female sex characters, has also, I hope, explained why hysteria (according to my conception of hysteria) is so frequently associated with a tendency to simulate disease, accident, or injury, or deceive in some kind of way in the absence of any adequate (rational) motives.

I would here repeat that the so-called tertiary (nervous) female sex characters, though naturally best marked and most striking in the female sex, are not the exclusive property of the female sex. They occur likewise, though they are usually less conspicuous, in the male sex, and it is by their occasional exaggeration (or disorder) that I explain the occurrence of hysterical and irrational (apparently motiveless) deception and simulation ("hysterical malingering") in males.

Teleology (that is to say, the modern Darwinic or evolutional idea of teleology) finds a place in the phylogenetic aspect of hysteria, and it seems to me also to claim a place in regard to other conceptions (Babinski, Freud, Janet, and others) of hysteria. For instance, is it not conceivable that hysterical excessive suggestibility may, on the whole, be useful rather than harmful for persons whose own will-power is pathologically deficient? Moreover, in cases in which wretched experiences have made their psychical marks or "psychical traumata" in the past, and in which the present condition is in some way gravely affected by subconscious reminiscences, "separation of consciousness" may be supposed to bring not only inconveniences and dangers, but also a certain kind of relief.

Some functional nervous symptoms usually classed as hysterical are not readily explained by my conception of hysteria. So-called "hysterical vomiting" seems to be a pathologically exaggerated action of the reflex defensive mechanism by which poisonous or irritating ingesta are normally rejected. But it may sometimes be on the borderland between hysteria and voluntary action simulating disease.[6]

[6] Cf. F. P. Weber, remarks in Brain, London, 1904, vol. xxvii., p. 193.

Furthermore, in regard to the greater frequency of simulated diseases, self-inflicted skin lesions, &c., in women than in men (I do not, of course, here refer to simulation of diseases and accidental mutilations in cases in which the simulation is attempted for obvious reasons, such as to escape military duty in countries where conscription is practised) it may be remembered that when a woman is depressed and altogether discontented with the life she has to lead, she is more likely than a man would be to try to attract attention or pity by simulating disease or injury. A man usually has much more open to him; he can seek a new country or (if he does not endeavour to obtain relief by drink or gambling) he can take part in dangerous ventures of various kinds which bring excitement and temporary relief.

## ACUTE OSTEOMYELITIS OF THE VERTEBRAL COLUMN.

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REPORTS of cases of acute osteomyelitis of the spinal column are rare, at least in this country, and it is thought that the following account of a successful operation for this condition may be of sufficient interest to justify publication.

A boy, aged 9 years, previously in excellent health, fell on his right buttock in an asphalt yard on Sept. 21st, 1909. The accident was not a serious one, and though he complained of pain and stiffness he was able, after rubbing with embrocation, to walk without discomfort on the following morning. After a few hours, however, the pain came on again, and he was seen by Mr. W. G. Mumford, who found nothing more than such as to suggest an ordinary bruise or sprain. The boy was kept in bed and treated with hot fomentations, but on the following day he had diarrhœa, and in the evening his temperature rose to 104° F., and the pain in the back and buttock became much more acute. On the next day the temperature was still 104°; the boy was delirious and had extremely acute pain and tenderness in the left lumbar region. There were also some abdominal pain and distension, but nothing definite could be made out in the abdomen or the chest.

The patient was then admitted to the Royal United Hospital, where he was first seen by us. He lay perfectly flat on his back, without a pillow, and with his left thigh flexed on his abdomen. His face was flushed, his eyes staring, and his expression that of intense anxiety. His breathing was rapid and shallow, his pulse 84, temperature 103°, and his tongue coated but moist. No physical signs were present in the chest or abdomen. The pupils were equal and reacted, and there was no optic neuritis. He complained of intense pain in his back, and any attempt to extend the thigh or to raise the head caused him to shriek with pain.

On examining the back there was seen to be very slight fulness in the left ilio-costal space, and two inches to the left of the third lumbar spine there was a point of particularly acute tenderness. The spines themselves were not tender to pressure or percussion, and as far as could be seen the column was moveable when the boy turned on his side. No evidence of disease of the hip-joints or sacro-iliac joints was present, and pain was not elicited by jarring the spine by forcibly thrusting the femur against the acetabulum. There was no paralysis of the lower limbs and no affection of sensation could be made out. No tendon reflexes could be elicited, but the superficial reflexes were present, and the plantar reflex gave an ill-defined extensor response. The rectum and bladder were under proper control and the urine was normal.

The diagnosis being uncertain hot fomentations and salicylate of soda were ordered, but the boy kept the whole ward awake at night by his shrieks, and on the following morning his condition had decidedly changed for the worse. He was now more or less delirious, there was some retraction of the head, and the retinal vessels were beginning to be engorged. There was rather more swelling in the left ilio-costal space, and the skin of the lumbar region was slightly œdematous. The third and fourth lumbar spines were now

definitely tender, but not nearly so much so as the above-mentioned point two inches to the left of the middle line. The Babinski reflex was more marked. Owing to the mental condition it was impossible to satisfactorily test the sensation, and no paralysis or paresis of the legs could be discovered.

It was now felt that the combination of such extremely acute symptoms in the lumbar region, with signs of commencing meningeal infection, pointed to acute spinal osteomyelitis as being the most probable cause of trouble, and the very grave condition of the patient indicated that an exploratory operation should be undertaken without delay. It was thought advisable not to attempt a lumbar puncture on account of the risk of conveying infection into the theca if the needle should chance to pass through a collection of pus on its way into the spinal canal. Dr. G. A. Bannatyne, physician to the hospital, kindly saw the case in consultation, and strongly supported the view that a determined attempt should be made to find pus in connexion with the spine.

The situation of the swelling and of the most acute point of tenderness to the left of the spine, coupled with the comparative absence of tenderness over the spinous processes themselves, had led to the supposition that the disease had started in the bodies of the vertebræ, and that pus was tracking back between the tendons of origin of the psoas. A long vertical incision was therefore made over the outer border of the left erector spinæ; this muscle was pulled inwards, the posterior layer of the lumbar aponeurosis divided, and the finger insinuated between the psoas tendons to the front of the spinal column. Nothing abnormal was found and the wound was closed by deep and superficial sutures.

A second long incision was then made in the median line, and the left side of the lumbar laminæ was exposed. They appeared to be normal. An exploring needle was then introduced into the spinal canal between the third and fourth laminæ, when thick grey-green pus at once appeared in the syringe. The operation was then completed by the removal of the second, third, and fourth lumbar laminæ. The inner surface of the third lamina was black and necrosed, and the spinal canal was full of pus and lymph. The theca was carefully cleansed and the wound well washed with hot saline. There was no escape of cerebro-spinal fluid, and after removal of the pus the theca pulsated freely. A rubber tube was laid along the opened canal and the wound closed over it in layers by catgut sutures. The duration of the whole proceeding was 55 minutes and the boy was immensely relieved by it.

For six days afterwards convalescence was satisfactory, and then cerebro-spinal fluid began to flow freely from the wound. The patient did not appear much the worse for this, but a week later he had a severe secondary hæmorrhage, from which he nearly died. He was again put under anæsthesia, both wounds were opened up, cleansed, and packed with iodoform gauze. A hole could be seen in the theca from which cerebro-spinal fluid was running. An attempt to close it failed as the sutures cut out of the inflamed meninges. After this the boy made an uneventful recovery. The flow of cerebro-spinal fluid stopped in a week, and the wounds granulated up from the bottom. A small sinus was left for several months, but gradually closed. Two months after the operation slight knee-jerks were present and the Babinski reflex had disappeared.

The pus removed from the spinal canal was examined by Dr. Rupert Waterhouse, pathologist to the hospital, and found to contain staphylococcus aureus in pure culture.

Mr. Mumford informs us (November, 1911) that the boy is in good health, and that there is remarkably little weakness of the spine, though a poroplastic jacket is still worn as a matter of precaution.

From an examination of such of the literature as has been accessible to us, it appears that our case may be taken as a fairly typical instance of the most acute variety of spinal osteomyelitis. The disease is apparently not a very common one, but it has evidently so often been mistaken for other affections that it may perhaps not be so rare as is generally supposed.

For the short account of its general characters which follows we must express our indebtedness to the papers of Makins and Abbott, of Otto Hahn, and especially to the elaborate analysis of 68 recorded cases by Hunt in the *New York Medical Record* for 1904. A further list of papers on the subject is given below.

The subjects of the disease are generally under the age of 20, though occasionally it occurs in persons over middle age. What appears to be the first reported instance occurred in a man aged 63, whose case was described by Delafield at the Pathological Society of New York in 1875. In most instances there is a history of some slight injury such as a blow or strain, and sometimes some local cause of sepsis, such as furuncle, is present. The onset is accompanied by high fever and very severe local pain. In our case the extreme severity of the pain was such as to create an impression in our minds that we had never met with anything quite like it before. Rigidity and tenderness of the spine are usually present, sometimes retraction of the head, or opisthotonos. It is said that jarring of the spine does not produce pain as it does in Pott's disease, and this was so in our case.

Abdominal pain and distension are nearly always present, and may lead to much difficulty in distinguishing the disease from some acute abdominal condition. In a case reported to THE LANCET by Totherick in 1885, the abdominal symptoms were so marked that a surgeon was called in with a view to laparotomy. No operation was done, however, and the patient shortly afterwards died from pyæmia.

The nerve symptoms, when fully developed, are those of pressure on the cord at the segment affected—viz., root-pains with paralysis and exaggerated reflexes below. The paralysis has been known to spread rapidly upwards owing to burrowing of pus in the peri-dural cellular tissue, thus giving rise to a mistaken diagnosis of Landry's paralysis.

Unless early relief is given by operation, these cases rapidly go from bad to worse, and are characterised by continued high fever, rigors, splenic enlargement, formation of abscesses in situations varying according to the locality of the lesion, visceral complications, and pyæmia.

The disease has been mistaken for enteric fever, pneumonia, peritonitis, and acute spinal meningitis, and considering the varied and puzzling character of the symptoms which may arise in its course, this is not to be wondered at.

The outlook is always grave, the mortality being estimated by different writers at from 60 to 75 per cent. It is obvious that the only possible chance of recovery must lie in early diagnosis and prompt operation.

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## LEAD BULLET REMOVED FROM METATARSAL BONE AFTER 23 YEARS.

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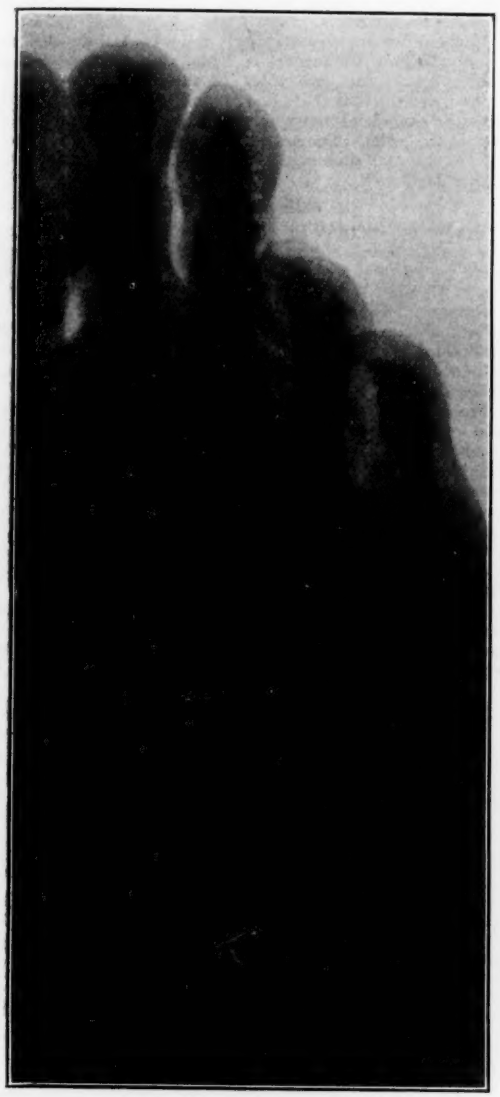
IN THE LANCET of Oct. 1st, 1910, p. 1010, I reported a case of the removal of a bullet 11 years after the battle of Omdurman, where it was received. On March 16th, 1911, I removed at the Khartoum Civil Hospital, after 23 years, a leaden bullet from the fourth metatarsal bone of the left foot of a Jaalin Arab, aged about 45, who had received it in 1888 at Handub, near Suakim, in a small engagement when Colonel Kitchener (Lord K.) attacked Osman Digna with partial success.

The only symptom the man complained of was that when he put on his putties the foot swelled. There was no pain, although his principal occupation is walking and carrying messages about Khartoum. There was the story of the bullet wound of the foot, with two months' incapacity afterwards, with discharge of pus and blood. Afterwards he noticed

nothing until a fortnight previous to applying to hospital, when, I presume, the slightly increased pressure in the veins by the putties caused some little swelling or a feeling of tightness in the foot.

On examination the fourth toe looked shorter, and there was some thickening of the shaft and base of the fourth metatarsal bone. The wound of entrance was represented by a scar on the dorsum of the foot. As the man said that he had seen the bullet and had held it in his hand, and was certain that it came out again, I was rather surprised to see the indications of a foreign body present on the X ray plate—a print of which I send, and which was kindly taken by Major Carroll at the Egyptian Army Hospital at Khartoum.



Skiagram showing position of bullet.

On cutting down on the bullet a leaden ball of the circumference of a thumb-nail was completely covered with bone on all sides, and was situated near the base of the bone. On gouging through the osseous tissue I came across tiny specks, or particles, of lead, more numerous the nearer the bullet was approached, as if the bullet on reaching its destination had splashed fragments of lead all round, the splashes being fainter the farther away from the bullet. The bullet was contained in a round smooth cavity, lined like the smooth porcelain surface of an osteo-arthritic joint, and resembling a diminutive acetabulum after the bullet was extracted. It showed no signs of erosion and fitted tightly into its bony cavity.

The bullet had evidently fractured the bone and lay amongst the fragments, and had become encysted amongst the osseous fragments when the bone healed up, and had remained quiescent for 23 years, neither eroding the bone nor being acted on by the tissues or fluids of the body. Finally, the bullet was a round lead bullet about the circumference of an adult thumb-nail, probably from a gun of an old type (? a muzzle-loader).

*Remarks.*—I do not know of a reported case of a bullet being removed after 23 years. It had caused the man no trouble practically for 23 years, and had not interfered with his occupation, although it was embedded in his foot, and his occupation involved much walking about. It was firmly encysted in the bone, and I do not think that more inconvenience was caused by its presence than if it had not been there at all, nor was there any greater disturbance of the surrounding tissues than the original fracture of the bone itself would account for.

Finally, I do not think a foreign body becomes, as a rule, absorbed by the tissues or tissue fluids of the body when embedded in them, nor does it tend to move about unless it is alive, like a guinea-worm, or infected by micro-organisms; nor will it, as a rule, by its mere presence cause any harm at all, and this is, I think, contrary to the usual teaching.

Khartoum.

## THE LYMPHATICS OF THE SCROTUM

### IN RELATION TO THE RADICAL OPERATION FOR SCROTAL EPITHELIOMA.

BY JOHN MORLEY, CH.M. MANCH., F.R.C.S. ENG.,
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THE investigations that follow were undertaken under the conditions of tenure of the Tom Jones Surgical Scholarship of Manchester University.

I became convinced of the need for this work by the following considerations. In the first place, my experience of surgical practice in the Manchester Royal Infirmary during the past few years led me to believe that epithelioma of the scrotum is, in Lancashire at any rate, by no means so rare a disease as is generally supposed, and that glandular metastasis is, on the whole, neither late nor unusual. The frequency of the disease has been definitely established, however, by the work (at present unpublished) of Mr. S. R. Wilson, who, in the course of an etiological investigation into epithelioma of the scrotum, has collected a series of 40 cases from the records of the Manchester Royal Infirmary and the Christie Cancer Hospital during the past ten years.

I find that in the five years 1906–10 inclusive 30 cases of scrotal epithelioma were admitted to the Manchester Royal Infirmary, an average of six per annum, and it is worth noticing that during the same period there were admitted only 25 cases of epithelioma of the penis.

Secondly, the disease receives very meagre treatment in most of the surgical text-books, and in the chief works on operative surgery is not even mentioned. Further, the description of the scrotal lymphatics in the various anatomical text-books, of which the best is found in Poirier et Charpy (Tome II., Fasc. 4), did not appear to me so complete as the practical importance of the region demanded.

I have approached the subject from a frankly surgical point of view, with the object of attempting to place the operation for radical cure of cancer of the scrotum on as sound an anatomical basis as that for malignant disease of the breast.

With this object I have set myself to elucidate the following questions:—

1. The arrangement of the lymphatic vessels draining the scrotum and the collecting trunks into which they lead.
2. A more precise knowledge of the topography of the inguinal glands into which they drain.
3. Do any of the scrotal lymphatic trunks pass by the inguinal glands without entering them, and go primarily to the intrapelvic glands along the external iliac artery?
4. The effect of age upon the condition of the scrotal lymphatic drainage apparatus, and more particularly its condition in the age of greatest predisposition to cancer.

*Classification of the Superficial Inguinal Glands.*

The conventional text-book and clinical division of these glands is into (1) a superior or oblique set, just below and parallel to Poupart's ligament, with which their long axes are also parallel; and (2) an inferior or vertical set, grouped round the upper two inches or so of the internal saphenous vein, and elongated in a vertical direction.

The first group is described usually as receiving the lymphatics from the lower trunk, gluteal and perineal regions, and from the skin of the external genitals; the second, as receiving most of the superficial lymphatics of the lower limb. This classification has been accepted generally on account of its simplicity and its rough and ready accuracy.

I venture to think, however, as has been pointed out by Poirier, that it is an inadequate classification. In the first place, there are a number of glands, round or irregular in shape, which lie round the sapheno-femoral junction, which cannot be assigned definitely to either group by dissection. Secondly, injection experiments entirely fail to show any such simple arrangement of the afferent vessels as that usually described. This is borne out by clinical work, for it must have fallen to the lot of every surgeon to see some glands of the vertical chain infected from a primary lesion of the genitals, or some of the upper oblique set of glands involved in septic conditions of the foot.

There is, in fact, no possibility of a perfectly clear natural classification of these glands, so variable are they in their arrangement and drainage areas. Since, however, some classification of so large a group is imperative from the surgical standpoint, I have adopted the clear but arbitrary division of Poirier, following Quénu. He draws two imaginary straight lines, one vertical, the other horizontal, which meet at the junction of the saphenous with the femoral vein. We thus get four groups of glands—viz., supero-external, supero-internal, infero-external, and infero-internal (see figure). It will be observed that the lower part of our imaginary vertical line corresponds roughly with the internal saphenous vein, which is the surgeon's most important landmark in the subcutaneous tissue of this region. I have not adopted Poirier's fifth or central group of glands, lying over the saphenous opening, as this brings an unnecessary complication into our artificial classification.

*Technique.*

I have worked exclusively with Gerota's fluid (a suspension of Prussian blue in turpentine and ether), and my injections have been made by means of a mercurial constant pressure apparatus prepared from the specifications of Professor J. K. Jamieson of Leeds, and described by him and Mr. J. F. Dobson.[1] The finest hypodermic needles were used. A pressure of 10–15 cm. Hg was found the most useful.

Successful injections were made in the bodies of four stillborn infants and 13 adult males. The latter were found the more satisfactory to work with, especially if emaciated. In the case of the stillborn infants the injections were made within a day of birth, and the subjects were hardened in 10 per cent. formalin before dissection, but the adults were injected 5–6 days post mortem when rigor mortis had passed off. They were then preserved by the usual formalin injection, and the arteries were finally injected with starch and vermilion. The somewhat laborious dissections of the lymphatics were completed after this.

*Results.—Influence of Age.*

The lymphatics of the scrotum are remarkably well developed at all ages. The fœtal vessels are easier to inject, but more difficult to dissect out on account of their minuteness and the abundance of fat in the groin.

The 13 adult bodies injected varied from 36 to 80 years of age, and the majority were over 50. I found after some practice that I could invariably obtain a successful injection, and that old age brought no perceptible diminution in the number and calibre of the lymphatic vessels. The size and number of the inguinal glands varied considerably in different subjects, but some of the oldest bodies possessed uncommonly large glands.

Microscopical sections of glands taken from a series of six subjects aged from 70 upwards showed, however, marked age changes when compared with fœtal glands. The central medullary portion of the gland becomes entirely replaced by fibrous tissue. Some cases show extensive fatty degeneration. The fibrous capsule is also greatly thickened, and only in the attenuated cortical zone does lymphoid tissue remain. Such of the lymphoid tissue as remained appeared, however, quite normal in structure, and the peripheral lymph sinus was quite evident in all.

[1] Journal of Anatomy and Physiology, October, 1910.

*Network of Origin.*

In the deeper layers of the cutis vera and superficial to the dartos muscle is a very rich and fine network of lymphatic capillaries. The blue injection can be seen through the delicate scrotal skin shooting out in all directions from the point of the needle into this network. By a single puncture one can often obtain an injection of practically the whole of the scrotum and penis.

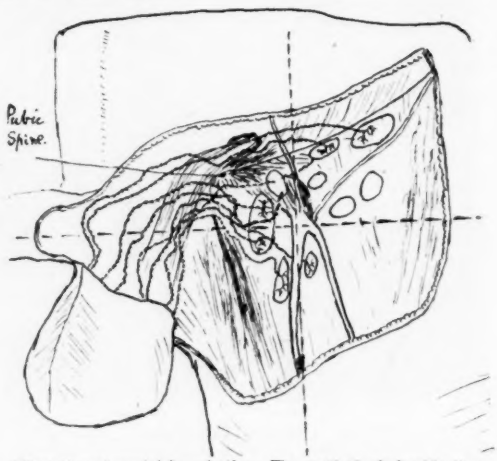
It should be noted particularly: (1) That there is a free communication by means of this network between the lymphatics of the two sides of the scrotum, across the raphe; and (2) that there is an equally free communication with the superficial network of lymphatic capillaries in the skin of the penis. The network also spreads into the skin of the thighs and perineum, but here it becomes much less highly developed.

*Collecting Trunks.*

Taking origin from this delicate superficial network, one can see numerous collecting trunks of considerable calibre. They dip down at their origin through the dartos muscle and run in the subcutaneous tissue for the rest of their course to the glands. The thick blue lines of the injected trunks can be seen through the thin scrotal skin and dartos without any dissection, but as soon as they reach the groin, where the subcutaneous fat begins, they are hidden from view until dissected out.

From 10 to 15 collecting trunks leave the scrotum on each side. They show, when distended, a characteristic beaded appearance due to the very numerous valves, and vary considerably in thickness in different bodies. The thickest trunk that I have observed had a diameter at its most distended part, above a valve, of 2 mm., but the average maximum diameter is from 0·5 to 1 mm. The course of the trunks is tortuous, as might be expected in so mobile a region, and they cross one another and anastomose to some extent.

It is necessary for purposes of description to classify these trunks arbitrarily into three groups—viz., anterior, lateral, and posterior, according to the region of the scrotum from which they take origin.




Dissection of scrotal lymphatics. The method of classification of superficial inguinal glands is indicated.

*Anterior trunks* (see figure).—These are of chief importance, since epithelioma usually commences on this aspect of the scrotum. Further, the long and peculiar course of the medial trunks has not been accurately described, as far as I can ascertain, by other workers.

(*a*) The medial trunks, 2–3 in number, run up the anterior surface of the scrotum parallel and close to the raphe until they reach the root of the penis. Here, instead of turning

outwards at once, they mount up on to the lateral aspect of the penis, the highest and most medially placed trunk reaching a point on the side of that organ varying from 1 to 2·5 cm. from its root. Curving down on the dorso-lateral aspect of the penis they gain its root, pass outwards and slightly upwards into the subcutaneous fat of the abdominal wall about 1 cm. above the pubic spine, run at first parallel to and above Poupart's ligament, and then turning down and crossing it obliquely end, as a rule, in a gland of the supero-external group which lies just below Poupart's ligament with which its long axis is parallel.

This gland always lies definitely to the outer side of the line of the saphenous vein, and may be within 4 cm. of the anterior superior spine. In their course to this gland the vessels pass sometimes between the superficial epigastric vein and the skin, sometimes underneath it. It often happens that the lower of these trunks curves down from the region of the pubic spine, and ends in one of the supero-internal glands, leaving only a single trunk to take the long course described above.

(*b*) The *outer trunks* from the anterior surface, three or four in number, do not run upwards parallel with the raphe, but pass upwards and outwards, and gain the anterior aspect of the spermatic cord. At or a short distance below the level of the pubic spine they curve first outwards and then slightly downwards, and end, after various anastomoses, in glands of the supero-internal and infero-internal group.

*Lateral trunks.*—These are four or five in number. They run upwards on the lateral aspect of the scrotum and spermatic cord, and curve outwards 1–2 cm. below the pubic spine, to reach the supero-internal and infero-internal glands. Sometimes a trunk runs underneath the saphenous vein, just below its junction with the femoral vein, and ends in an infero-external gland.

*Posterior trunks.*—On each side of the raphe, and about 0·5 cm. from it, a large collecting trunk runs upwards from the most dependent part of the scrotum towards the perineo-scrotal junction. Into this trunk run four or five tributaries, which pass transversely across the posterior surface of the corresponding side of the scrotum from without inwards. The main trunk turns outwards a short distance below the junction of scrotum and perineum, runs at first upwards on the posterior aspect of the spermatic cord, and then turning outwards into the thigh about 2·5 cm. below the pubic spine ends in a gland of the infero-internal group, lying parallel with the saphenous vein about 2–4 cm. below the sapheno-femoral junction.

No collecting trunks accompany the perineal and internal pudic vessels into the pelvis.

In one subject I observed three or four trunks originating in the lower part of the anterior surface of the scrotum, which ran backwards through the lower part of the scrotal septum to end in the main posterior trunk. I have not been able to demonstrate this arrangement in other subjects.

The efferent trunks from the superficial inguinal glands sometimes run to other glands of the same group, and sometimes they join a gland of the deep femoral chain. Most of them, however, converge on two or three large thick-walled trunks which, after piercing the cribriform fascia, run up through the crural canal to the inner side of the femoral vein, and end in glands lying along the inner or pelvic side of the external iliac vessels.

I have never been able to find a trunk that passed by the inguinal glands and primarily entered the intrapelvic glands. There does not appear to be any communication between the superficial lymphatics and those of the tunica vaginalis and testis.

*Practical Conclusions.*

1. In consequence of the very free anastomosis between the superficial lymphatic network of opposite sides, it is obvious that whenever an epithelioma approaches the median raphe the glands of both groins must be removed.

2. In view of the termination of the medial trunks from the anterior surface in the supero-external glands, it is important that, when a growth approaches the anterior raphe, the subcutaneous tissue and glands should be removed to within one inch of the anterior superior spine of the ilium. I have seen recently a case in which a very determined attempt at a radical operation failed because the surgeon had not carried his dissection far enough in an outward direction (see figure). Recurrence took place within nine weeks of the operation in the extreme outer angle of the incision.

3. It is essential to remove the superficial inguinal glands and subcutaneous tissue in which they lie, from practically the whole of Scarpa's triangle, and to carry the upper limit of the dissection well above the inner half of Poupart's ligament. To clear the triangle efficiently the upper three inches (7·5 cm.) of the internal saphenous vein must be excised and the femoral sheath stripped clean.

In view of Handley's work on permeation of lymphatics and the protective process of peri-lymphatic fibrosis in cancer of the breast, it is scarcely possible, without further histological investigation, to dogmatise on the necessity of removing all the intervening lymphatic vessels, in addition to primary growth and glands.

It is certain that secondary malignant growths are, in this region, extremely rare in the course of the lymphatic trunks, as compared with growths in the glands; and it may prove that the vulnerability of the vessels is so slight as not to warrant the additional mutilation involved in their complete extirpation.

Many surgeons, however, will consider it their duty to aim at the ideal of complete removal of all possible malignant cells, here as elsewhere, and attention to the above description should provide the necessary anatomical data for an early case. It will rarely be possible after such an operation to bring the skin completely together. As far as the necessarily denuded root of the penis is concerned, it will be possible to cover it in the uncircumcised by incising the prepuce on the dorsum (if there should be a tendency to phimosis), and utilising the additional skin gained by its retraction. Apart from this, skin grafting would be required.

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# THE SYSTOLIC BLOOD PRESSURE IN DISEASES OF THE HEART.

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THE observations recorded in this paper were made on patients suffering from: (1) simple, uncomplicated valvular lesions of the heart due to acute rheumatic endocarditis; (2) valvular lesions due to other causes; and (3) other heart affections. No systemic complications were observed in cases of valvular lesions due to rheumatic endocarditis. There were no cyanosis, dyspnœa, changes in the fundus oculi, febrile temperature, and albuminuria, though traces of albumin were sometimes detected in a few cases. The observations were made on patients of both sexes, of different ages, sent to the Convalescent Hospital from the Manchester Royal Infirmary. They were allowed a mild out-door exercise, and generally they were keeping in good health.

The apparatus used for the observations was a sphygmomanometer, a Martin's modification of Riva-Rocci. The systolic blood pressure was recorded by the armlet method during the recumbent posture of the patients. The observations were made daily, under similar circumstances, nearly an hour before dinner (at 1 P.M.), and in cases of doubt they were repeated two to three hours after 8 P.M. A record of pulse-rate and number of respirations was kept during the observations, and sphygmographic tracings of the pulse were often made to note the effect of blood pressure on the pulse. For the convenience of this article only the number of observations and the mean blood pressure are recorded.

The conclusions were arrived at by consulting the following table[1]:—

| Age. | Normal systolic blood pressure. |
|---|---|
| Children and adolescents ... ... | 90 mm. Hg. |
| Young and middle aged (35–45 years) ... ... ... ... | 115–125 mm. Hg (mean 120). |
| Over 45 and elderly ... ... ... ... | 135–145 mm. Hg (mean 140). |

In women 5 to 10 per cent. less than the above figures.

[1] Oliver: Studies in Blood Pressure, 1908, pp. 81–82.

*Analysis of Observations.*

| Case No. | Sex. | Age. | Cause of the lesion. | Disease. | Mean blood pressure mm. of Hg. | Remarks about blood pressure. | Number of observations. |
|---|---|---|---|---|---|---|---|
| 1 | M. | Mid. | Rheumatic endocarditis. | Aortic incompetence, hypertrophy of left ventricle, Cheyne-Stokes respirations occasionally. | 170 | Supernormal. | 17 |
| 2 | M. | Mid. | ,, ,, | Aortic incompetence. | 130 | Little above normal. | 12 |
| 3 | M. | Mid. | ,, ,, | ,, ,, | 147 | Above normal. | 18 |
| 4 | M. | 19 | ,, ,, | Aortic and mitral incompetence. | 130 | Well above normal. | 22 |
| 5 | F. | Mid. | ,, ,, | Aortic incompetence, hypertrophy of left ventricle, signs of arterio-sclerosis. | 223 | Supernormal. | 21 |
| 6 | M. | 39 | ,, ,, | Mitral incompetence. | 134 | Above normal. | 28 |
| 7 | M. | 16 | Acute rheumatic endocarditis. | ,, ,, | 116 | ,, ,, | 8 |
| 8 | M. | Mid. | ? | Aortic incompetence, angina pectoris. | 114 | Below normal during interparoxysmal periods. | 8 |
| 9 | M. | 20 | Rheumatic endocarditis. | Mitral stenosis. | 116 | Normal. | 25 |
| 10 | M. | 24 | ,, ,, | ,, ,, | 128 | Above normal. | 24 |
| 11 | M. | 15 | ,, ,, | ,, ,, | 112 | Little above normal. | 16 |
| 12 | F. | 18 | ,, ,, | ,, ,, | 113 | Above normal. | 10 |
| 13 | F. | 20 | ,, ,, | ,, ,, | 138 | Well above normal. | 29 |
| 14 | F. | 61 | ,, ,, | ,, ,, | 137 | Normal. | 28 |
| 15 | F. | 13 | ,, ,, | Mitral stenosis and incompetence. | 111 | Above normal. | 9 |
| 16 | F. | 40 | ,, ,, | Mitral stenosis. | 128 | Little above normal. | 5 |
| 17 | F. | 17 | ,, ,, | ,, ,, | 125 | Well above normal. | 4 |
| 18 | F. | 18 | ,, ,, | ,, ,, | 118 | Above normal. | 8 |
| 19 | F. | 18 | ,, ,, | Mitral incompetence and stenosis. | 108 | Normal. | 21 |
| 20 | F. | 9 | Rheumatism. | Acute endocarditis. | 104 | Little above normal. | 5 |
| 21 | F. | 11 | ,, | Acute endocarditis (patient kept in bed all the time). | 80 | Little below normal. | 39 |
| 22 | M. | Mid. | ,, | Acute endocarditis. | 120 | Normal. | 11 |
| 23 | M. | 57 | ? | Cardiac muscle failure. | 140 | ,, | 11 |
| 24 | M. | Mid. | ? | ,, ,, | 160 | Well above normal. | 2 |
| 25 | M. | 23 | ? | ,, ,, | 117 | Normal. | 4 |
| 26 | M. | Mid. | ? | ,, ,, | 125 | ,, | 7 |
| 27 | F. | Mid. | ? | ,, ,, | 196 | Supernormal. | 5 |
| 28 | F. | 14 | Rheumatism. | Endocarditis and myocarditis. | 130 | Well above normal. | 6 |
| 29 | M. | Mid. | ? | Aortic incompetence, stenosis, mitral stenosis, signs of arterio-sclerosis. | 181 | Supernormal. | 9 |
| 30 | M. | Mid. | ? | Aneurysm of arch of aorta. | 106 | Below normal. | 16 |
| 31 | M. | 25 | — | Tachycardia. | 150 | Supernormal. | 5 |
| 32 | F. | 26 | Goitre. | Mitral regurgitation. | 123 | Normal. | 9 |
| 33 | F. | 20 | Chronic nephritis. | Hypertrophy of left ventricle, arterio-sclerosis. | 180 | Supernormal. | 5 |
| 34 | F. | 16 | History of diphtheria? No rheumatism. | Mitral stenosis. | 130 | Well above normal. | 6 |

I.—In valvular lesions of the heart (with or without complications), due to rheumatic endocarditis and other causes, the blood pressure was found to be normal or above normal.

II.—In simple and uncomplicated valvular lesions of the heart, due to acute rheumatic endocarditis, the blood pressure was found always to be normal or above normal. These results agree with those arrived at by Starling.[2]

III.—In aortic incompetence complicated with anginal attacks, the blood pressure was found to be *subnormal* during the interparoxysmal periods. The low systolic blood pressure is, perhaps, an expression of the failing power of the myocardium.

IV.—Significance of high blood pressure in simple and uncomplicated valvular lesions of the heart due to rheumatic endocarditis. The high blood pressure observed in some of the cases is, I believe, a physiological compensation in those individuals, though it may be mistaken for a pathological state. As is well understood, the normal blood pressure is maintained by the coördination of the three factors—viz., (1) Rhythmic and forcible contraction of the myocardium; (2) tonic action of the arterial walls; and (3) contraction of the arterioles. In valvular diseases of the heart the defective normal action of the myocardium must be corrected, first, by making a demand on its reserve power; secondly, by supplying a proper amount of blood under the altered circumstances, thereby maintaining a new blood-pressure level. Vaso-constriction is the first effort made to correct the myocardial insufficiency by inciting the ventricles to restore the proper output to its previous amount (Starling).[3] Consequently the height of blood pressure may vary according to the degree of vaso-constriction, and condition and demand of the myocardium.

For such patients, therefore, who showed no complications and who were comparatively active and comfortable, an average level of arterial blood pressure *even above normal* was absolutely necessary to ensure the requisite speed of capillary blood flow.[4] In such cases the high blood pressure was not incompatible with average normal health.

V.—The blood pressure in cardiac muscle failure was normal or well above normal. I believe that the high blood pressure in cardiac muscle failure was due to various pathological causes which produced a change in the myocardium. It was pathological in nature.

VI.—In valvular lesions, complicated with chronic nephritis and arterio-sclerosis, the significance of supernormal blood pressure requires no comment. It is distinctly pathological.

Liverpool.

[2] THE LANCET, vol. ii., 1906, p. 847.

[3] Ibid., p. 848.

[4] For the support of these arguments see Janeway, New York Medical Journal, Feb. 2nd, 1907, pp. 193-97; and Oliver, Studies in Blood Pressure, 1908.

UNIVERSITY COLLEGE HOSPITAL.—Captain the Honourable Edward Stanley Dawson, R.N., has accepted the appointment of chairman of the Corporation of University College Hospital in succession to the late Earl Cathcart.

# THE SPECIFIC GRAVITY OF THE BLOOD FROM THE CLINICAL ASPECT.

BY ATHOLE ROSS, M.D. CANTAB., M.R.C.P. LOND.,
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I WAS recently asked by the late Dr. J. A. Coutts to assist Major Leonard Rogers, I.M.S., in the preparation of a number of glycerine-water solutions for taking the specific gravity of the blood; these were required for use in connexion with the treatment of epidemic enteritis by hypertonic salines and permanganates, on similar lines to the new methods of dealing with cholera recently introduced by Major Rogers and his co-workers at Calcutta. There are three methods of determining blood specific gravity:—

1. Hammerschlag employed a mixture of chloroform and benzol having a specific gravity between 1055 and 1060. A drop of blood is allowed to fall into this mixture from a pipette. If the blood floats benzol must be added and the solution stirred; if it sinks the addition of chloroform is required. When the drop floats suspended a urinometer is used to take the specific gravity of the mixture. Criticising this method Major Rogers observes that the smell of the mixture is objectionable, and quotes Da Costa for the statement that an ordinary hydrometer gives a reading exceeding the correct figure by from 3 to 10 degrees. What Da Costa exactly means by this is a little difficult to see, for if the hydrometer gives untrustworthy readings all the observations must be valueless. A great disadvantage of the method is the time it would consume when a dozen or so of determinations have to be made during the morning round; it also requires some manipulative skill, as the drop of blood is liable to break up in the mixture.

2. In Schmaltz's method the weight of equal quantities of blood and water are obtained by previously weighing a perfectly clean dry pipette and then filling it. The accuracy of this method is only limited by the technical ability of the observer and the sensitiveness of his balance. It is, however, quite unsuited for clinical purposes.

3. The remaining method is to make up a large number of glycerine-water solutions[1] whose specific gravities "should represent every other degree from 1040 to 1076." (Rogers.)

It would appear that the glycerine and water solution was used by some in precisely the same way as Hammerschlag's mixture of benzol and chloroform; for Dr. J. H. Drysdale, in the latest edition of "Allbutt's System of Medicine" (Vol. I., p. 650), writes: "In Roy's method, of which Hammerschlag's is a modification, the fluid employed was a mixture of water and glycerine. In both the principle is the same, and the method has been largely used in this country by Drs. Copeman and Lloyd Jones." Now Major Rogers, and presumably also Dr. Lloyd Jones quoted by him, makes use not of a single solution of about the specific gravity which it is expected the specimen of blood will be, but of a whole series of solutions of glycerine and water extending from specific gravity 1040 to specific gravity 1076. I am here concerned with a means of rapidly and easily preparing these solutions.

When Major Rogers made up the mixtures in my laboratory he simply mixed the water and glycerine in the rough proportions that he knew from experience would be wanted, and then by adding either water or glycerine, while testing with the hydrometer, obtained the various solutions. This method is rather uncertain except in experienced hands, and it is, moreover, decidedly tedious and lengthy. Major Rogers admitted that even he on occasion had had some trouble with this procedure. It is merely a matter of calculation to find how much glycerine of specific gravity 1·26 must be added to 500 c.c. of distilled water so that the resulting specific gravity of the mixture may be 1056 (about that of normal blood); 137·2 c.c. of glycerine are required. A table was constructed giving the calculated amounts of glycerine to be added to 500 c.c. of water in order to obtain mixtures of specific gravities 1036, 1038 to 1072, 1074 inclusive. On experimenting with certain of the calculated quantities it was found that the specific gravities of the solutions obtained were a few degrees out, either in excess or defect of what they should be. Having ascertained that by law the specific gravity of a sample of pure glycerine must be 1·26, I thought that, as glycerine was hygroscopic, some contraction in the total volume of the mixture must occur to account for the error found, and that also a correction could be applied to allow for this. On looking into the matter it became apparent that although glycerine is commercially sold as 1·26, it very frequently has a specific gravity of 1·265. Taking the gravity of glycerine 1·265 the quantity of glycerine required for the experiment above detailed would be 134 instead of 137·2 c.c. The full table was then abandoned and the following four solutions retained to form a basis for the preparation of the entire series. Taking the specific gravity of glycerine as 1·265, the result obtained was as follows:—

| Distilled water. | Glycerine. Sp. gr. 1·265. | Sp. gr. of mixture— | |
|---|---|---|---|
| | | As calculated theoretically. | As found by experiment. |
| A. 500 c.c. | 88·9 c.c. | 1040 | 1043 |
| B. 500 c.c. | 116·3 c.c. | 1050 | 1055 |
| C. 500 c.c. | 146·3 c.c. | 1060 | 1065 |
| D. 500 c.c. | 179·5 c.c. | 1070 | 1075 |

The best way to use this table is to prepare from it four working solutions, A, B, C, D, and these may be each 500 c.c. (or better a litre) of distilled water plus the requisite quantity of glycerine.

*Example.*—Having made solution B, the addition of a small quantity of glycerine, while stirring and testing with the hydrometer, will bring the gravity to 1056. Of this 1056 mixture 200 c.c. are set aside; then by the addition of a further quantity of glycerine 1058 and 1060 are obtained—portions set aside for stock, and next by adding water to the remainder 1054 and 1052 are worked out. Afterwards Solution A is taken to make 1038 to 1050, and so on till all the 20 solutions required are prepared.

Some tall glass vessels 2 inches to 2½ inches in diameter are required, together with 100 c.c. measures and an accurate hydrometer. It is to be noted that although the exact specific gravities of the solutions obtained by adding the measured quantities of glycerine to the constant volume of distilled water will vary a little (and experiment will not quite agree with theory), we may be certain of getting *four working solutions whose specific gravities will lie within the limits of the series of mixtures that are required.* From them the whole series from 1036 to 1076 can readily be prepared. The small discrepancy between a specific gravity as calculated and one as found is due to the fact that, although the specific gravity of a trustworthy sample of pure glycerine must be 1·26, there is no relying on what the figure in the third decimal place will be. Evidently the specific gravity of the glycerine I employed was neither 1·260 nor 1·265. A large bore burette will be found useful for making small adjustments in the quantities of glycerine added. A crystal of thymol should be placed in each stock bottle as a preservative.

The best method of using the solutions clinically is outlined in Dr. Rogers's book. A series of small glass-stoppered testing bottles is put up, labelled, and boxed in numerical order.[2] A drop of blood is drawn up in a capillary pipette, fitted with a rubber cap, and gently expelled into the bottles in turn till one is found in which it just floats suspended, or, breaking up slowly, rises and falls at the same time: this bottle gives the required specific gravity. If it is found, for example, that the drop rises slowly in 1052 and sinks slowly in 1050 the specific gravity is intermediate—viz., 1051. The best way to obtain the blood in children is by placing a ligature round the big toe. I found in my own case that it makes no difference to the reading whether the blood is obtained from the thumb in this way or from the lobe of the ear without pressure.

From the few observations I have made I am inclined to think that the blood specific gravity in children is more variable than in adults, and that it is harder to fix a normal for them. The specific gravity certainly rules lower; and the test bottles at the higher end of the series are seldom

[1] I use the term "solution" in this paper when strictly "mixture" should be employed.

[2] The mixtures in these should be renewed from stock as soon as they become turbid and discoloured.

required, even when the blood has become concentrated by severe diarrhœa. I am rather doubtful if the blood specific gravity will prove so important a guide in the treatment of epidemic enteritis by the Rogers method as it appears to be in the case of cholera. Probably those who now working in the wards at Shadwell will soon be able to settle this question.

It is an undeniable fact that usually the specific gravity of the blood has not much importance from the clinical point of view, and it was only when asked to assist Major Rogers that my attention was directed to devising a means whereby the labour of making up so many glycerine-water mixtures to a prescribed degree of specific gravity might be lightened. No one, however, can read Major Rogers's book on cholera without being impressed by the important part which the determination of the blood specific gravity plays in his system of treatment, and it may well be that this is one of those exceptions which go far to prove the rule. That a parallelism exists between the specific gravity of the blood and the hæmoglobin content of the red cells is well known, and both Hammerschlag and Schmaltz have constructed tables showing the percentage of hæmoglobin, corresponding to different degrees of specific gravity. The suggestion has been made that the hæmoglobin content could be deduced from a determination of the specific gravity of a sample of blood, but the changes in the plasma in severe anæmia, leukæmia, dropsy, and diarrhœal disease render this practice unreliable. In conclusion, I have to thank Mr. Elms for independently confirming the figures given in the table.

Shadwell, E.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### NOTES ON A CASE OF GASTRO-ENTEROSTOMY.

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THE fact of a suture remaining dormant for three years and then being extruded in the happy manner described below is, I believe, unusual, and therefore the case seems worth recording.

The patient, a female, aged 32 years, was admitted to hospital in June, 1907, with a history of 17 years' ill-health. She had a sallow, muddy complexion, looked thin and badly nourished, complained of more or less continuous indigestion and constipation, and stated that she had been under medical treatment off and on for many years. There was no dilatation of the stomach or any other abnormal physical condition discoverable. I advised exploration with a view to gastro-enterostomy.

The operation was performed on June 6th, the abdomen being opened by a vertical incision above and to the left of the umbilicus and lateral dislocation of the left rectus muscle. A chronic ulcer was found near the lesser curvature and pylorus. This was left alone and a posterior gastro-enterostomy performed. The points especially observed were: (1) to take the highest possible part of the jejunum; (2) to make the incision in the stomach wall reach the greater curvature; and (3) to fix the margins of the opening in the meso-colon to the jejunum below the anastomosis by three points of suture, one anterior and two lateral, the whole line of suture being thus occluded within the lesser sac. Two continuous sutures of fine silk were used for the anastomosis in the usual way.

Recovery was uneventful and the patient was sent to the Weston Convalescent Home on July 22nd, returning from there a month later for inspection. She had gained considerably in weight, was in very good health, and immediately resumed her work as a domestic nurse, remaining at it in excellent health for nearly three years.

In June, 1910, the patient reported that she had noticed a gradually increasing swelling in her "stomach" for a few weeks, but that it caused her no inconvenience. On examination there appeared a globular fluctuating swelling, of the size of a large orange, presenting just above and to the left of the umbilicus. The swelling was below the stomach and fixed to the anterior abdominal wall, but was quite free of the operation scar, which was scarcely visible. She was readmitted and the swelling was carefully incised under general anæsthesia, and without opening the general peritoneal cavity. About half a pint of pus, free from smell, came away. Gentle digital exploration of the cavity did not reveal its relation to the transverse colon, and extensive manipulation being obviously undesirable, this point was not determined. A large drainage-tube was put in, and the outcome was awaited. Three days later a piece of silk, 7½ in. long, came away in the discharge. The wound then rapidly healed. The patient soon returned to work again, and has remained quite well.

This case is a fortunate example of the true function of a "foreign body" abscess—a collection of fluid formed for the twofold purpose of boring a way to the surface and floating out the offending substance. It also confirms the view that silk is an unnecessarily permanent material for internal suturing.

Bridgwater.

### NOTES ON A CASE OF HEAT-STROKE OF THE HYPERPYREXIAL TYPE.

BY MARY A. BLAIR, M.D., B.S. LOND., B.SC. N.Z.

A WOMAN, aged 54, an inmate of St. Pancras Workhouse, was seen by me on the morning of July 22nd last, complaining of slight malaise. During the day she did her usual work in the kitchen of the workhouse, but she complained of thirst and was observed to be drinking large quantities of water. The temperature of the kitchen is reported to have been 91° F. About 6 P.M., while sitting on a bench in the workhouse yard, she was taken suddenly ill and was removed to the receiving ward.

On arrival there the woman was found to be very pale, with lips blanched, and the veins of the neck engorged. She was breathing without difficulty and her pulse was 100 and of good quality. She spoke a few words intelligently and then became incoherent, and afterwards restless and irritable, violently resisting examination. Her jaws were tightly clenched. Her pupils were at first slightly dilated, but in a few minutes they contracted, and complete unconsciousness supervened. The motions were passed under her. They were yellow and semi-fluid. Her skin felt very hot, and the temperature, taken in the axilla, was found to be 108°. Convulsive movements then began in the lower limbs and spread to the rest of the body. There were constant champing movements of the jaws throughout the attack.

Some cold sponging was done and the patient was removed to the ward. The whole body was then sponged with ice-cold water, but the temperature (taken in the rectum) remained at 105°. The patient was then covered with wet lint on which pieces of ice were placed, and finally the trunk and limbs were rubbed with pieces of ice. By 9 P.M. the temperature had fallen to 101·6°; the ice applications were discontinued and the patient was covered with a sheet. There was no vomiting, but several loose motions were passed. The convulsions continued, beginning sometimes in one or both arms and sometimes in the legs and spreading to the trunk. Movements of the jaws went on constantly. At 9 P.M. the convulsions became very severe, the limbs contracting so violently that it required several nurses to keep the patient on the bed. The pulse and respirations remained good. Chloroform was now begun and continued to full surgical anæsthesia before the movements could be controlled. With lighter anæsthesia the movements returned. The temperature rose again to 104·4°, but then fell steadily, no further sponging being given. At 1 A.M. the administration of chloroform was discontinued and the patient was watched for an hour, during which there was no return of convulsive movements, and the temperature continued to fall. At 8 A.M. she suddenly recovered consciousness, as if waking from sleep. She remembered nothing since being in the workhouse the previous afternoon.

Throughout the attack the patient suffered from hyperpyrexia and convulsions alone. The pulse remained strong and only slightly increased in rate, and the respirations were unaffected.

Recovery has been complete. No sequelæ have been

observed except occasional slight headaches, more noticeable on hot days, and slight vomiting on two occasions.

Vicarage-gardens, Campden-hill, W.

## NOTES ON A CASE OF UTERINE FIBROID CAUSING GANGRENE OF THE LOWER LIMB.

BY F. S. CREAN, L.R.C.P. & S. IREL.,
ASSISTANT MEDICAL OFFICER, BERMONDSEY INFIRMARY.

I RECENTLY admitted to Bermondsey Infirmary a woman, aged 42 years, whose right foot showed signs of dry gangrene. At the time of admission the discolouration and anæsthesia extended from the toes to about the mid-tarsal joint. No definite history of injury could be obtained. The urine was carefully examined, but no abnormal constituent was found. She gave a history of rheumatism in childhood, and auscultation revealed the existence of a systolic mitral bruit. There was no evidence of failing compensation nor of pronounced arterial degeneration. As she was disinclined for a pelvic examination none was made. She stated that her menses were still regular. She was a multiparous woman whose last child was born several years ago.

Conservative methods and tonic treatment were tried for four days, but as the gangrene steadily spread along the foot and over the ankle amputation through the knee-joint was done on the fifth day after admission. On the day following the operation the patient's condition was very low, and a large purpuric-looking spot was observed over the right side of the sacrum. On the next morning the edges of the amputation flaps showed purple discolouration. The patient failed to respond to stimulant treatment, grew progressively weaker, while the vitality of the stump grew feebler, and on the fourth day after operation death occurred.

At the necropsy a large subperitoneal fibroid growing from the fundus uteri was found, pressing upon and almost entirely occluding the right external iliac artery.

Lower-road, Rotherhithe, S.E.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### MEDICAL SECTION.

*Influence of Certain Accessory Food-stuffs (Tea, Coffee, &c.) on Gastric Secretion.—Association of Hysteria with Malingering.*

A MEETING of this section was held on Nov. 28th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Dr. F. CRAVEN MOORE and Dr. H. E. ALLANSON communicated a paper on the Influence of Certain Accessory Food-stuffs on Gastric Secretion. They said: The observations of Pawlow and his co-workers having established the varying influence of different dietetic substances on the rate of gastric secretion and the activity of the secreted juice in the dog, it was accepted as at least highly probable that a similar relation would obtain in the human subject, and in a limited fashion the truth of this has already been established. In view of these results it appeared to us that it would not only be of interest, but of some practical importance, to determine by observation on the human subject the varying effect on gastric secretion of certain food-stuffs, essential and accessory, which by their use or interdiction in disorders of gastric activity have been credited empirically with having some particular relation, ameliorative or causal, with such disorders. The substances so far included in our investigations are: water, tea, coffee, cocoa, milk, albumin water, meat extracts, and alcohol; in addition a few observations have been made on the effect of tobacco-smoking. The methods employed consisted in the administration on the empty fasting stomach, at 8 A.M., of a test-breakfast composed of four "breakfast biscuits" and 10 oz. of fluid, either water or freshly infused tea, coffee, or cocoa without milk or sugar, or milk, or albumin water containing the white of one egg in 10 oz. of water, or two teaspoonfuls of meat extract in 10 oz. of water, or 2 oz. of whisky with 8 oz. of water. The fluid was heated to an agreeable temperature. The stomach contents, removed one hour later, were immediately filtered, and in the filtrate the free hydrochloric acid and the total acidity were estimated by titration with decinormal soda solution, dimethylamidoazobenzol and phenol-phthalein, respectively, being used as indicators; the peptic activity was estimated according to the Edestin method of Fuld and Levison. The results obtained with the test-breakfast consisting of four biscuits and 10 oz. of water were made the basis for comparison throughout the observations, and in each individual case the measure of the secretory reactivity to water and to the particular substance under investigation was determined on the average of not less than three experiments with each. The 15 individuals on whom the observations were made included normal healthy subjects, and subjects both with and without definite gastric disorder. The results as expressed in the accompanying table are the averages of a series of observations made with each test-breakfast in the several individuals of the series.

On analysing these results it is found that an infusion of tea induces a greater secretion of gastric juice than does water; a comparison of the averages of

| No. | Name | Sex | Age. | Water. | | | Tea. | | | Coffee. | | | Cocoa. | | | Milk. | | | Albumin water. | | | Meat extract. | | | Alcohol. | | | Tobacco. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HCl | T.A | P. | HCl | T.A | P. | HCl | T.A | P. | Hcl | T.A | P. | Hcl | T.A | P. | HCl | T.A | P. | HCl | T.A | P. | HCl | T.A | P. | HCl | T.A | P. |
| 1 | A. E. H. | M. | 28 | 42·0 | 64·0 | 7·7 | 51·3 | 68 7 | 9·0 | 63·7 | 87 0 | 10 0 | 53·3 | 80·0 | 8 6 | 34·7 | 94·0 | 5·4 | 55·0 | 74·0 | 9·7 | 74·3 | 98·3 | 11·6 | 54 7 | 74·7 | 8·0 | 59·3 | 78·3 | 9·0 |
| 2 | B. N. G. | M. | 25 | 34·3 | 58·3 | 5·0 | 31·7 | 57·3 | 5·7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 24·7 | 52·7 | 4 6 | 34·7 | 50·7 | 5·5 |
| 3 | E. W. | F. | 32 | 50·0 | 68·7 | 8·6 | 53·3 | 72·0 | 8·9 | 41·0 | 60 7 | 7·6 | 38·0 | 53·0 | 6 8 | — | — | — | — | — | — | 73 0 | 96 7 | 11·5 | — | — | — | — | — | — |
| 4 | E. W. | F. | 24 | 42 0 | 67·3 | 7·4 | 52·3 | 71·0 | 8·3 | 47·3 | 67·0 | 7·7 | 46·0 | 63·3 | 7·7 | — | — | — | — | — | — | 50·7 | 74·7 | 8·3 | — | — | — | — | — | — |
| 5 | H. S. | M. | 32 | 44·7 | 61·3 | 8·2 | 52·7 | 67·7 | 8·3 | — | — | — | 45·3 | 64·0 | 7·4 | — | — | — | — | — | — | 52·7 | 74·3 | 8·2 | — | — | — | — | — | — |
| 6 | A. Y. | F. | 45 | 46·3 | 60·7 | 8·2 | 60 3 | 74·3 | 8·8 | 71·0 | 84·7 | 11·0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 7 | M. Y. | F. | 54 | 47·7 | 62 0 | 7·9 | 70 C | 86·0 | 10·3 | — | — | — | — | — | — | — | — | — | — | — | — | 59·3 | 89·7 | 8·6 | — | — | — | — | — | — |
| 8 | F. M. | F. | 17 | 44·0 | 64·0 | 7·5 | 64 0 | 80·7 | 9 4 | — | — | — | 66 7 | 86·7 | 10·4 | — | — | — | — | — | — | 68·0 | 98·3 | 10·0 | — | — | — | — | — | — |
| 9 | E. E. | F. | 24 | 55·3 | 76·0 | 8·2 | 71·3 | 88 7 | 10·3 | — | — | — | 60·7 | 82·3 | 9·4 | 54·3 | 102·3 | 8·8 | — | — | — | 78 0 | 102·3 | 12·7 | — | — | — | — | — | — |
| 10 | G. D. | M. | 50 | 35·5 | 45·7 | 5·5 | 54·0 | 63 3 | 8·0 | 73·3 | 82·3 | 11·0 | — | — | — | 57·0 | 98·6 | 7·0 | — | — | — | 61·7 | 75·0 | 9 7 | — | — | — | — | — | — |
| 11 | M. P. | F. | 36 | 47·3 | 68·7 | 3·0 | 43 3 | 61·7 | 6 0 | — | — | — | — | — | — | 12·0 | 70·7 | 2 6 | — | — | — | 44 0 | 69·7 | 6 1 | — | — | — | — | — | — |
| 12 | A. P. | F. | 26 | 37·3 | 60·7 | 5·6 | 62·8 | 80·7 | 9·4 | — | — | — | — | — | — | 13·0 | 67·0 | 2·9 | — | — | — | 55·0 | 87·7 | 8·2 | — | — | — | — | — | — |
| 13 | A. W. | F. | 20 | 31·7 | 52·7 | 5·0 | 37 0 | 56 0 | 6·0 | 43·7 | 52 0 | 6·0 | — | — | — | — | — | — | — | — | — | 41·7 | 73·3 | 6·2 | — | — | — | — | — | — |
| 14 | E. M. | F. | 37 | 40·3 | 61·3 | 6·0 | 40 3 | 60·7 | 3 5 | — | — | — | — | — | — | — | — | — | 61·7 | 84·7 | 8 8 | 53·7 | 87·7 | 7·3 | — | — | — | — | — | — |
| 15 | J. McL. | M. | 43 | 46·0 | 64·3 | 7·7 | — | — | — | — | — | — | — | — | — | 27·7 | 69·7 | 4·6 | — | — | — | — | — | — | — | — | — | — | — | — |

HCl = Free hydrochloric acid. T.A. = Total acidity, expressed in terms of number of cubic centimetres of decinormal soda required to neutralise respective acidities in 100 c.c. of filtrate. P. = Peptic activity.

the total observations in 14 cases demonstrates this very clearly:—

| | Water. | Tea. |
|---|---|---|
| HCl ... ... ... ... ... ... ... | 42·7 ..... | 53·2 |
| T.A. ... ... ... ... ... ... ... | 62·2 ..... | 70·8 |
| P. ... ... ... ... ... ... ... ... | 6·7 ..... | 8·0 |

In the individual cases a similar, but varying, relation is seen to obtain in all but two (Nos. 2 and 11), where the secretion is actually diminished. In three individuals a number of observations were made with a solution of caffeine (3 gr. in 10 oz. of water) with a view of elucidating the secreterogenic factor in infusions of tea. In two the averages of repeated observations showed that such a solution of caffeine was more potent than tea; whilst in the third, whilst the stimulating effect was somewhat less than that of tea, it was much greater than water.

| | Water. | Tea. | Caffeine. |
|---|---|---|---|
| HCl ... ... ... | 46·5 ..... | 54·8 ..... | 54·9 |
| T.A. ... ... ... | 68·0 ..... | 77·0 ..... | 79·0 |

the average of the total observations showing that a watery solution of caffeine and an infusion of tea are equally stimulating. The results obtained with coffee indicate that individual susceptibility is more pronounced than in the case of tea, and that whilst the averages of the total observations in the six cases where comparison may be instituted appear to show that it is a somewhat more powerful stimulus of gastric secretion than tea, this depends chiefly on its marked effect on those who may be regarded as susceptible.

| | Water. | Tea. | Coffee. |
|---|---|---|---|
| HCl ... ... ... | 41·0 ..... | 51·3 ..... | 56·6 |
| T.A. ... ... ... | 59·8 ..... | 67·5 ..... | 72·3 |
| P. ... ... ... | 7·0 ..... | 8·1 ..... | 8·8 |

Cocoa, whilst showing some degree of individual variability in its action, is a stimulus to gastric secretion more powerful than water but less powerful than tea, as is shown by comparison of the following total averages in six cases:—

| | Water. | Tea. | Cocoa. |
|---|---|---|---|
| HCl ... ... ... | 46·3 ..... | 57·4 ..... | 51·8 |
| T.A. ... ... ... | 66·9 ..... | 75·1 ..... | 71·5 |
| P. ... ... ... | 8·0 ..... | 9·1 ..... | 8·4 |

The results of the observations with milk are particularly interesting in view of its general and somewhat empirical use as a food in disorders of the stomach and in conditions of general debility. In five out of six cases in which observations were made it proved to have a stimulating effect on gastric secretion less than that of water:—

| | Water. | Milk. |
|---|---|---|
| HCl ... ... ... ... | 43·8 ..... | 33·1 |
| T.A. ... ... ... ... | 63·2 ..... | 83·7 |
| P. ... ... ... ... ... | 6·3 ..... | 5·2 |

This peculiar relation of milk to gastric secretion depends in all probability upon the inhibitory action of the fat contained in it. It is of interest to note that whilst the stomach contents after a milk test-meal show considerably less free HCl and pepsin than after the administration of water, there is a great access in the total acidity; so far as we have been able to investigate this phenomenon it would appear to be due to the presence of fatty acids resulting from the splitting of the milk fats. A watery infusion of a meat extract is a powerful stimulus of gastric secretion, as appears from a comparison of the following averages of the total observations in 12 cases:—

| | Water. | Tea. | Meat extract. |
|---|---|---|---|
| HCl ... ... ... | 47·0 ..... | 54·3 ..... | 59·3 |
| T.A. ... ... ... | 68·0 ..... | 71·6 ..... | 85·6 |
| P. ... ... ... | 7·3 ..... | 8·0 ..... | 9·0 |

Similarly albumin water appears to exert a considerable stimulating effect on gastric secretion, as is shown by repeated observations on two individuals. The observations on the action of alcohol and tobacco-smoking on gastric secretion made on two normal individuals are of interest in that they show that either agent may have a stimulating or a depressing effect on secretion, probably in accordance with the susceptibility of the individual.

Dr. F. PARKES WEBER read a paper on the Association of Hysteria with Malingering: the Phylogenetic Aspect of Hysteria as Pathological Exaggeration (or Disorder) of Tertiary (Nervous) Sex Characters, which will be found on p. 1542 of this issue of THE LANCET.

## PATHOLOGICAL SECTION.

*Arteriomyomatosis.*

A MEETING of this section was held on Nov. 21st, Dr. R. T. HEWLETT, the President, being in the chair.

Mr. S. G. SHATTOCK recorded under the name of Arteriomyomatosis a hitherto undescribed arterial lesion which he had observed in the vessels of a large soft fibroma removed from the connective tissues by the side of the vagina. The vessels were of the size of the smallest arterioles and presented a remarkable overgrowth of the muscular tissue. This was not disposed anatomically as in a simple hypertrophy (as in the hypermyotrophy unassociated with renal disease described by Savill or in chronic Bright's disease), but the bundles of muscle cells, in the most marked enlargements, intersected without relation to the axis of the vessel, and after the manner of a proper myoma. The muscular overgrowth was in some cases markedly asymmetrical, and might even take the form (microscopically) of a lobulated eminence. The adventitia was quite unaffected. There was no renal disease. The condition was wholly different from the peri-arteritis nodosa of Kussmaul and Maier, where the thickenings, which occurred as discrete nodular swellings on the smaller arteries, were due to inflammatory changes in the adventitia, accompanied with endothelial proliferation, the muscular tunic being displaced and thinned. In the lesion described by the speaker the thickening was diffuse, the vessel being enlarged somewhat as the nerves in the diffuse form of neuro-fibromatosis.

Papers were read by Dr. W. LANGDON BROWN on the Bundle of His from a case of Heart-block (with specimens and lantern slides); Dr. A. E. BOYCOTT on Sahli's Hæmoglobinometer; Dr. H. R. DEAN on Further Experiments on Complement-fixation and Precipitation; and Dr. J. HENDERSON SMITH on Some Experiments on Lysis.

## SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Exhibition of Cases and Specimens.—Purpura in Acute Infective Diarrhœa in Infants.—Congenital Flexion of the Joints of the Fingers.*

A MEETING of this section was held on Nov. 24th, Dr. G. A. SUTHERLAND, the President, being in the chair.

The following cases were shown:—

Dr. T. VINCENT DICKINSON: Infantilism.

Dr. REGINALD H. MILLER: (1) Chronic Interstitial Nephritis with Infantilism; and (2) Intracranial Tumour.

Dr. F. J. POYNTON: Psoriasis and Flexion of the Terminal Phalanx of the Thumb.

Dr. A. C. D. FIRTH: Congenital Absence of Patellæ with Deformity of the Nails in a mother and three children.

Dr. J. L. BUNCH: Hereditary Syphilitic Infant treated with Intravenous Injection of "606."

Dr. E. BELLINGHAM SMITH: Congenital Word Deafness and Other Defects.

Mr. HALDIN. DAVIS: Granuloma Annulare.

A specimen of Cerebral Aplasia with Hydrocephalus was shown by Dr. R. S. TREVOR and Dr. H. D. ROLLESTON.

Dr. ROLLESTON and Dr. B. J. DE W. MOLONY communicated a paper on Purpura in Acute Infective Diarrhœa in Infants. From an analysis of 100 cases of acute diarrhœa sufficiently severe to be admitted into the Victoria Hospital for Children it was found that purpura occurred in 11, all of which were fatal; the prognosis of these cases was therefore extremely grave. In 8 of the 11 cases the purpura was on the abdomen; possibly the extremely low blood pressure and the horizontal position of the patients explained why the purpura occurred on the trunk rather than on the limbs. The purpura occurred on an average on the thirty-fourth day of the diarrhœal disease and seven days before death; purpura was therefore a late and cachectic manifestation in diarrhœa of infants. The purpura was not caused by transfusion or by the use of serums.

Mr. D. C. L. FITZWILLIAMS read a paper on Congenital Flexion of the Proximal Inter-phalangeal Joints of the Fingers, after having shown four cases illustrating the condition. As a short and convenient name for the deformity

he suggested the term "hook-finger." He stated that the chief characteristics were that the first inter-phalangeal joints were flexed to a right angle, while the metacarpo-phalangeal and the terminal inter-phalangeal joints were hyper-extended and never flexed as was sometimes stated in the books. The little finger was the one most often affected, but if the condition was present in the others as well it was less marked in those that were farthest away from the little finger. The thumb was never involved. The deformity was a true congenital one and never acquired. It was probably due to maldevelopment of the anterior ligament of the joint; the hyperextension of the metacarpal joint showed that the fasciæ had nothing to do with it, though shortness of these structures was the cause usually assigned in the books. In nearly all cases the condition was bilateral, and was frequently associated with laxity of ligaments of the other joints of the body. In one case exhibited both knees could be dislocated with great ease. Other congenital abnormalities were not uncommon. If the condition was allowed to persist and more than one finger was affected, the use of the hand might be seriously interfered with. The treatment in the early cases was manipulation and massage, but in old-standing cases the ligament should be released from the front of the base of the middle phalanx by a fine-bladed tenotome passed into the joint from the side; in this way the tendons were not injured.

## MEDICAL SOCIETY OF LONDON.

*Exhibition of Cases.*

A MEETING of this society was held on Nov. 27th, Dr. J. MITCHELL BRUCE being in the chair.

Dr. F. DE HAVILLAND HALL showed a case of Polycythæmia. The patient was a man aged 53. He had had rheumatism at the age of 15. He had been rejected on examination for entry into the Marines at the age of 18 for heart disease. In February, 1908, the present illness began with pain in the right shoulder, and he was admitted into Middlesex Hospital. In June, 1910, he was admitted into Westminster Hospital suffering from pain in the right side and shortness of breath—pleurisy. On admission into hospital on Sept. 16th, 1911, the patient was cyanosed, hands blue, fingers not clubbed, conjunctivæ injected; teeth were carious. The spleen was enlarged but not tender, and the liver was not enlarged. There were enlarged superficial veins over the abdomen, and distended and tortuous veins on the inner side of the right leg, slightly enlarged on the left leg. Nothing abnormal was found in the lungs and heart. The blood pressure varied between 90 and 115 mm. of mercury. Von Pirquet's test was positive. Examination of the blood on Sept. 18th showed: hæmoglobin 119 per cent., red blood corpuscles 10,980,000, colour index 54, white blood corpuscles 18,600, polymorphs 93 per cent. On Oct. 11th venesection to 4 ounces was done. The patient expressed himself as being much relieved by it. A second examination of the blood was made on Oct. 20th, and the polycythæmia was more pronounced than on the first occasion. The patient was seven weeks in hospital and gained 4 pounds in weight.

Dr. A. F. VOELCKER showed a case of Anæmia Pseudoleukæmia Infantum (von Jaksch) in which recovery had taken place.

Mr. DUNCAN C. L. FITZWILLIAMS showed a case of Persistent Forward Dislocation of the Head of the Radius in a patient who two years ago had an injury to his left elbow. The movements of extension and flexion were excellent. On extension the head of the radius could be felt dislocated forwards. The carrying angle was increased and lateral movements could be obtained. On flexing the arm something was felt to slip, and on full flexion the head of the radius was felt to the outer side of the shaft of the humerus well above the external condyle. There was no pain with the condition.

Mr. FITZWILLIAMS also showed a case of Compound Ganglion of the Palm of the Hand in a female patient. The condition had lasted for about 15 years. The ganglion extended from about 1½ inches above the anterior annular ligament of the wrist down to the middle of the palm. It extended along all the flexor tendons with the exception of that of the thumb and the little finger. A sensation as of melon-seed bodies was felt on driving the fluid to and fro under the anterior annular ligament. The collection had been tapped many times.

Dr. F. J. POYNTON reported a case of Loss of Power in the Hand of four years' duration in a female aged 43. There had been loss of power and loss of sensation in both hands for the last four years, worse on the left side. The symptoms were thought to have begun as a result of hard work four years ago. They had increased steadily. The patient could not hold anything in either hand. Pains (as if in the bones) commenced in the thumb and hollow of the left hand and passed up the radial side of the arm to settle in the supraclavicular fossa. There was similar (but less) pain on the right side. There were occipital headaches, and cramp-like pains in the sole of the right foot and in the right side of the stomach. General weakness and wasting were present. The patient had enlarged cervical glands on the right side when 18 years old. She was nervous and emotional, and responded readily to suggestion. The pupils were normal. There was no marked wasting of either arm or forearm. In the left hand the thenar eminence was wasted, as also the hypothenar eminence. There was slight wasting similarly on the right side. The interossei were poorly developed on both sides. The trunk muscles were normal. There was no wasting of either lower limb, and the patient used them freely. There was no tremor or ataxy. Sensation was normal over the trunk and lower limbs. There was considerable blunting of the tactile sense in the upper limbs (stroking touch) uniformly distributed over both forearms and hands below the elbows. Sensation to pain was normal or rather hypersensitive; heat and cold sense normal. Reflexes in the upper arms were present and equal on both sides. Abdominal reflexes were present. The plantar response was indefinite flexor. Sensory change was very variable. On Nov. 24th the stroking touch was felt readily all over both forearms and hands, and there was hyperæsthesia to pin-pricks. No alteration in intensity of tactile sense anywhere could be made out. The left hand sweated profusely, the right to a lesser degree. The patient complained of tenderness "in bones" when the forearms were squeezed. Both thumbs could be opposed and abducted quite well.

Mr. W. H. BATTLE and Mr. H. BAZETT showed a case of Tracheal Obstruction. The patient was a female aged 42. In 1907 the patient had pneumonia and pleurisy, and since that time she had suffered with shortness of breath and stridor, and she had noticed some swelling in her neck which varied from time to time. During the same time she had had a troublesome cough, especially in the morning. On admission, on June 19th, 1911, the patient was found to have an enlarged thyroid, the enlargement being especially on the left side, while there was no obvious enlargement of the isthmus. The enlargement of the gland appeared to be uniform and the lower margin of the gland could not be defined, but appeared to extend behind the sternum. No abnormal sounds were heard in the chest, but there was some dulness on percussion over the manubrium and some dilated veins were seen over the upper part of the chest. The larynx was examined and found to be normal. On June 30th Mr. Battle made a median incision in the neck and divided the isthmus of the thyroid, and separated the gland and its capsule from the trachea, which was compressed and scabbard-shaped. The left lobe of the thyroid was enlarged and was pushing the trachea over the right side of the neck, but the thyroid did not appear to extend down into the thorax. Since the operation the stridor, mainly inspiratory, had continued, and on examination with X rays, the trachea was seen projecting from both sides of the manubrium, but more on the left than on the right. At the present time the right lobe of the thyroid was the larger in the neck, there was dulness on percussion over the manubrium, and on examination of the chest the respiratory breath sound was somewhat prolonged at the apices, and occasional crepitations were heard.

Mr. BATTLE and Mr. BAZETT also recorded a case of Tumour of the Femur in a male aged 16. About one month ago the patient knocked his left knee while at work, and on the next day noticed a hard lump above the knee. He again knocked his knee a week later. The lump gradually increased in size until shortly after the second injury, since when it had appeared to become a little smaller. After the first injury there was very little ecchymosis, but after the second injury the skin round the tumour became a dark-blue

colour. On admission on Nov. 15th a smooth, hard, rounded mass could be felt on the inner side of the lower end of the left femur. The tumour appeared to be attached to the femur and not to any of the more superficial structures; it was not definitely pedunculated, but appeared to be somewhat constricted at its attachment to the bone. On X ray examination the tumour was seen to be composed of very delicate bone of somewhat peculiar appearance.

Mr. BATTLE and Mr. BAZETT also brought forward a case of Popliteal Aneurysm in a male, aged 61 years. About five months ago the patient first noticed a small swelling at the back of the left knee. He took no notice of it and drew no one's attention to it. On August 16th, 1911, while walking, the patient developed acute pain in his right foot, which became blue and cold, this condition spreading up the leg nearly to the level of the knee-joint. On admission on August 19th the limb was cold and blue, and skin sensations were lost. The heart was enlarged but otherwise appeared normal; the urine had a specific gravity of 1024 and contained a trace of albumin. The arteries were thickened. A diagnosis of senile gangrene of the right leg was made, and on August 22nd, when a line of demarcation was becoming evident, the limb was amputated in the lower third of the thigh by a mixed flap and circular method, and the patient was discharged on Sept. 20th. Since he had been getting about with only one leg he had had pain behind the right knee and his leg had become swollen. The swelling at the back of the knee had not increased in size. On readmission on Nov. 14th the patient was found to have a swelling at the back of the left knee of the size of a small egg. The swelling exhibited expansile pulsation, which could be controlled by compression of the femoral artery. There was considerable œdema of the left leg and foot below the level of the knee, but there was no obvious enlargement of veins. With rest in bed for a fortnight, the œdema had disappeared for the most part. Nothing further abnormal was discovered in the chest or in the examination of the urine.

Dr. CHARLES W. CHAPMAN showed a case of Double Aneurysm of the Thoracic Aorta. The patient, aged 53, came under observation as an out-patient. He complained of sharp pain on the left side of his chest, passing down the left arm to the fingers, provoked by quick movements, and shortness of breath on exertion. The symptoms had lasted for eight years, but had become worse the last three years. There was no palpitation. The family history was good and the patient did not remember having had any illness. He had drunk very moderately of beer, no spirits, and was a non-smoker. He denied having had syphilis. On examination the cardiac dulness was much increased in both directions, there was impaired reasonance over the whole sternum, and a special area of dulness on the right side of the sternum over the second and third costal cartilages and extending to the right parasternal line. Over the latter area was a systolic thrill, and on auscultation loud harsh to-and-fro murmurs were heard; there was also a systolic murmur at the apex. The radial arteries were unequal. Wassermann reaction was positive. Examination by the X rays showed a pulsating swelling on the right side of the ascending aorta where the dulness had been observed, while in addition a smaller but freely pulsating aneurysm was seen higher up on the left side of the sternum.

Dr. CHAPMAN also showed a case of Aneurysm of the First Part of the Aorta in a man, aged 32. He complained of pain in the right breast and shoulder which had existed for seven months. Valvular disease had previously been detected. The patient had been to India, but denied having contracted specific disease or having had any illness. The man was pale and generally out of health; he had a more or less circular area of dulness with pulsation extending from the right side of the sternum for nearly 3 inches to the right, a harsh systolic murmur over the same area, and well-marked diastolic shock. There was much tenderness on pressure or friction. The apex-beat was just above the sixth rib and nearly an inch to the left of the nipple line. The impulse was feeble; arteries little thickened. Beyond a few scattered crepitant râles at both pulmonic bases there was nothing to note in the other organs and the urine was normal. Wassermann reactions were taken and were positive on both occasions. The pain was much relieved under rest and the free exhibition of iodides, but the improvement was most marked when Plummer's pill was added to the prescription, both as regards pain and force of pulsation. The patient remained in hospital for some months.

Mr. EDRED M. CORNER showed cases illustrating results of Cellulitis of the Hand. Case 1 was a male, aged 34, whose right hand was affected. He had been in hospital eight months ago, when an operation was performed. The patient was doing his work (manual) well; the only disability from which he suffered was that his hand ached after hard work. Case 2 was a male, aged 46, and had the trouble in the left hand. He was in hospital two and a half years ago, when he had six operations. He did his work (manual), but the hand became stiff if it was cold, and it ached in cold weather and after work. Case 3 (right hand) was a male, aged 59, who was in hospital 16 months ago, when he had an operation. He did light work, but could not close his hand to grasp, and the hand easily ached. Case 4 (also right hand) was a male, aged 59, who was in hospital 18 months ago, when he had three operations. He had lost one finger. But beyond sensitiveness to cold the hand was as good as it was before it became affected with cellulitis. Case 5 was a male, aged 50, who was in hospital 16 months ago with the trouble in his right hand. He had two operations. The hand was contracted and much disabled, and he could not grasp. He had a nodule of inflamed palmar fascia such as was found in Dupuytren's contraction. The hand felt the cold very much. The sixth case was that of a male, aged 38, who also had the right hand affected. He was in hospital two and a half years ago, when he had three operations. He could not close his hand to grasp. The hand was cold and blue, and was very sensitive to cold and changes of weather. In the seventh case, that of a male, aged 30, the left hand was affected. He was in hospital six months ago, when he had an operation. He did his work (heavy), his hand giving him no trouble except that it ached in rainy weather. Case 8 was a male aged 39; right hand. He was in hospital nine months ago, when he had five operations. He did his work (manual), but his wrist was stiff and the wound still remained unhealed. Case 9 was a male aged 17, with right hand affected. He was in hospital nine months ago, when he had two operations. He did his work (manual), his hand only troubling him when riding (he had a stiff finger). The tenth case was a female, aged 45, who had the affection in the right hand. She was in hospital six months ago, when she had two operations. She was married and used to do housework. Now she could not do her work as she could not close her hand to grasp; moreover, she felt changes of weather and temperature acutely in the hand. The nails were cracking. Case 11 was that of a female, aged 65, whose right hand was affected. She was in hospital two years ago, when she had one operation. She had difficulty in doing her simple laundry work. She did not feel the cold, but the hand ached whilst at work and afterwards, preventing her sleeping at night. The pain was felt across the knuckles.

Dr. J. WALTER CARR brought forward a case of Infective Endocarditis; recovery. The patient was a woman, aged 26. She had rheumatic fever when 21, and had suffered from slight breathlessness and occasional giddiness since. She was confined in January, 1911, and had a good deal of headache and giddiness after. On Feb. 28th she suddenly developed right hemiplegia, without loss of consciousness, doubtless from embolism. She was admitted to the Royal Free Hospital on March 10th. The heart was slightly dilated and there was a systolic murmur at the apex. Staphylococcus pyogenes was found in the blood. For the next five weeks she became steadily worse, and the temperature was very irregular, varying between 98° and 104°. The heart became greatly dilated, dulness extending from one inch to the right of the sternum to over an inch outside the left nipple line. Pulmonary bases were much congested. The urine frequently contained blood and albumin, probably from renal embolism, and the right kidney was palpable and tender. Three injections were given of an autogenous vaccine, containing respectively 300, 400, and 500 millions of staphylococci. No apparent benefit followed, the patient continuing to lose ground. Anti-staphylococcic serum was next injected, six times in all, 10 c.c. twice and afterwards 15 c.c. After the last injection the temperature became normal and gradual

improvement followed. The patient left the hospital on June 30th. She was in good health and doing full, ordinary household work without any discomfort. Mitral regurgitation was still present and the heart was slightly enlarged. The hemiplegia had passed off, except for slight weakness of the right hand. The lungs were clear and the urine normal.

## LIVERPOOL MEDICAL INSTITUTION.

*Exhibition of Cases and Specimens.—Influence of the Adrenal, Pineal, and Pituitary Glands upon Primary and Secondary Sex Characters.—Intestinal Concretions.*

A PATHOLOGICAL meeting was held on Nov. 16th, Mr. G. P. NEWBOLT, Vice-President, being in the chair.

Dr. K. A. GROSSMANN showed Twin Embryos—four months.

Mr. R. W. MURRAY showed Intussusception in an adult.

Mr. F. T. PAUL: An Appendix from a girl, aged 11, completely filled with a concretion which extended half an inch into the cæcum; she never had definite appendicitis.

Mr. W. THELWALL THOMAS showed: (1) A Myeloid Tumour from the palm of the hand, unconnected with bone; (2) a simple Duct Papilloma of the Breast (there was a discharge from the nipple); (3) an Adenoma of the Palate; and (4) Four Calculi removed from the Bulbous and six from the Prostatic Urethra.

Mr. T. C. LITLER JONES showed Melanotic Sarcoma of the Liver, with secondary infection of bacillus aerogenes capsulatus; the eye was removed two years before for glaucoma.

Dr. R. J. M. BUCHANAN showed Traumatic Pontine Hæmorrhage from a prize-fighter.

Dr. ERNEST E. GLYNN showed Infective Endocarditis, with subarachnoid cerebral hæmorrhage.

Dr. J. H. WILLETT showed Carneous Mole, Channeled Polyp, and Ovarian Fibroma with twisted pedicle.

Dr. E. GLYNN read a note on the Influence of the Adrenal, Pineal, and Pituitary Glands upon Primary and Secondary Sex Characters. He referred especially to the occurrence of malignant adrenal hypernephromata in female children with precocious development and hirsuties, to bilateral adrenal hyperplasia in female pseudo-hermaphrodites, and to the occurrence of true sexual precocity in tumours of the pineal gland.—Dr. T. R. GLYNN referred to the developmental relationship between the adrenal cortex and sex glands.

Dr. O. T. WILLIAMS read a paper on Intestinal Concretions. He demonstrated three series of concretions from the gall-bladder, intestine, and appendix, and compared and contrasted their chemical constitution. He suggested that their occurrence was evidence of general disorder of calcium and fat metabolism, and that the concretions were excreted by the intestine and the appendages.—Dr. J. LLOYD ROBERTS referred to a case of ulcerative colitis, ultimately fatal from perforation, in which the only symptoms for long periods were the passage of large quantities of mucous casts.—Dr. M. H. F. IVENS, Dr. GLYNN, and Dr. W. BLAIR BELL also spoke.

*Wound of the Thoracic Duct.—Sacrococcygeal Meningocele with Imperforate Anus.—Nerve Anastomosis in Infantile Paralysis.*

A MEETING of this society was held on Nov. 23rd, Dr. T. R. BRADSHAW, the President, being in the chair.

Mr. PAUL read a note of a case of Wound of the Thoracic Duct due to deep dissection of the neck for malignant glands. Compression having failed, the duct was successfully ligatured on the fifth day. Having reviewed other methods of treatment, he concluded that ligature was the best and should be employed as soon as injury to the duct was recognised.—Dr. H. F. PHILLIPS HUNT, under whose care the patient was, said that during the period that chyle was flowing the condition was one of extreme lassitude and drowsiness. The patient described her feelings as if she were in a far-off dream, that voices sounded dim and far away, and that she had to exert considerable mental effort before being able to answer questions. The temperature ranged from 100° to 102° F., and fell to normal 48 hours after the flow of chyle had ceased. She required an unusual amount of anæsthetic.—Mr. THELWALL THOMAS mentioned a case of wound of the duct following removal of tuberculous glands. The same evening free oozing took place of a clear discharge, saturating the dressings. The next day there formed a large opalescent clot distending the neck. On examination no definite spot could be found from which the oozing came. The wound was firmly packed with gauze. The patient was given a diet of tea and beef-tea. Recovery was uneventful.—Mr. RUSHTON PARKER mentioned the case of a girl, aged 10, from whom he excised tuberculous glands in the left supra-clavicular region. At the subsequent dressing abundant clear watery fluid escaped. No symptoms whatever resulted. If it were suggested that this fluid came from the lymphatics he stated that in excising glands from the thigh he had knowingly cut the largest lymphatics, but had never seen the escape of clear fluid afterwards.

Dr. ERNEST W. LEWIS read a note on a case of Sacro-coccygeal Meningocele in an adult associated with Imperforate Anus. Dr. Lewis gave a detailed account of this case and discussed the causation, varieties, prognosis, and treatment of imperforate anus.—Mr. R. C. DUN'S experience was that Dr. Lewis's patient showed the common variety of imperforate anus met with in females. He had notes of 45 cases on which he had operated—31 males, 14 females. The deformity in 13 of the female cases was similar to that in the case under discussion. The mortality in this series of cases was 22 per cent.

Mr. MURRAY read a note on five cases of Infantile Paralysis in which he had performed Nerve Anastomosis. In every case it was judged that sufficient time had elapsed to permit of natural recovery. Electrical reactions were always taken under anæsthesia. The operations were performed four or five years ago and the results were most disappointing, for in no instance was there any improvement as the direct result of the anastomosis.—Dr. W. B. WARRINGTON mentioned that a detailed account of these cases had been published in THE LANCET of April 2nd, 1910. He alluded to Stoffel's criticism of that paper and said that this writer claimed that the individual fibres to the muscles kept a definite topographical position throughout the nerve trunk and that this position could be recognised from experience, and hence a more scientific operation undertaken.—Mr. DUN mentioned four cases of infantile paralysis in which he had performed nerve anastomosis without improvement.

## NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

*Exhibition of Cases and Specimens.—Acute Inversion of Uterus.—Early Rising after Cœliotomy.*

A MEETING of this society was held at Sheffield on Nov. 17th, Dr. J. B. HELLIER, the President, being in the chair.

Dr. J. E. GEMMELL (Liverpool) showed specimens of: (1) Carcinoma Corporis Uteri; (2) Carcinoma Corporis Uteri with Fibroid; and (3) Diffuse Adeno-fibroma Uteri. He described their macroscopic and microscopic appearances, and urged the desirability of performing hysterectomy for all cases of fibroid seen at the menopause.

Mr. A. W. CUFF (Sheffield) related cases of: (1) Ureteral Calculus removed per vaginam; and (2) Vermiform Appendix in a Femoral Hernia.

Dr. A. DONALD (Manchester) read notes of a case of Wertheim's operation for Cancer, which was followed by sloughing of the abdominal wall, possibly due to the pressure of the retractor used at the operation.

Mr. MILES H. PHILLIPS (Sheffield) reported three cases of Acute Inversion of the Uterus which he had seen in consultation shortly after their occurrence. In each case, as the patient was profoundly collapsed, no attempt was made at immediate reposition. There had been little or no post-partum hæmorrhage. The shock was treated by saline infusion to which pituitary extract and morphia were added. After intervals of two, five, and 20 hours respectively the patient had sufficiently rallied to warrant operation. Under anæsthesia the uterus was in each case replaced without any great difficulty. All three patients recovered. It was then argued that the presence of severe shock should contra-indicate the usual text-book instructions to attempt immediate reposition. The secondary shock

so caused is likely to turn the balance against the patient. Analysis of 184 cases, collected chiefly from English records, supports the contention. The total mortality was 43 (23·4 per cent.). Of 79 cases in which the uterus was immediately replaced, *in the presence of marked shock*, 24 (over 30 per cent.) died. In 23 cases, in which it is definitely stated that there was *no shock*, immediate replacement was followed by recovery in each instance. In 10 cases there is no note as to the presence or absence of shock (probably, therefore, it was not present in any marked degree); immediate replacement was successful in each of these cases. In 17 cases death occurred with the uterus unreduced, generally from shock, before the arrival of the medical practitioner, who recorded the case. In 45 cases the uterus was allowed to pass into the state of chronic inversion, which was treated later, with success in every instance. In 2 cases death was due to septic infection. Of the 43 deaths, 41 took place within a few hours. The figures also show that immediate replacement of the uterus is followed by fatal results in 21 per cent. of cases, whereas in the 47 cases allowed to become chronic only 2 died. The intermediate line of treatment, indicated above, was strongly advocated.

Dr. A. J. WALLACE (Liverpool) read a short note on the results of early rising from bed of patients who had undergone abdominal and vaginal cœliotomies. After mention of the reasons for the adoption of the practice the guiding rules were stated as follows: recovery from operation must be good; pulse-rate and temperature must be normal; all nausea and vomiting must have ceased; the abdominal wound must be healed or be healing by first intention—the incision having been so made that the resulting cicatrix was supported by muscular tissue (the Lennander or Pfannenstiel incision); patients were merely encouraged to leave their beds, compulsion being never employed. Of 400 patients who underwent major operations in hospital 283 left their beds as soon as they felt disposed to do so, the majority on the seventh and eighth days. The discharge from hospital was generally on the fifteenth or sixteenth day after operation. The cases included every variety of operation for gynæcological ailments. In the great majority of cases the general condition of the patients was distinctly better than had been the case with patients confined to bed for two or three weeks. A few unfavourable results had to be recorded —slight pyrexia without definite cause (two cases); redness and swelling around the wound (two cases); secondary hæmorrhage from perineal wound (one case); a patient aged 64 who got up on the sixth day developed bronchitis; post-operative thrombosis (three cases) in mild degree.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

### SECTION OF SURGERY.

*Fatal Case following Injection of "606."—Spinal Anæsthesia in Prostatectomy.*

A MEETING of this section was held on Nov. 3rd, Mr. R. H. WOODS, the President, being in the chair.

Mr. H. MOORE reported a case of early General Paralysis of the Insane treated by "606," with a fatal result. The patient, aged 25, was given 0·5 gramme intravenously. A severe reaction followed, his temperature rising to 103° F. It was normal next morning, and he left the hospital on the fifth day. Wassermann's reaction, which had been negative before injection, was positive four days after. Six weeks later, his general condition being much improved, but Wassermann's reaction being still positive, he was again given 0·5 gramme. The reaction was very severe, his temperature rising to 105°, with much diarrhœa, vomiting, and general pain. The reflexes, which were all exaggerated before injection, disappeared. He was much better the following morning, but that afternoon he had a second rigor, with rise of temperature to 102°. His general condition became rapidly worse—he got ptosis of the left eyelid, bilateral paresis of the limbs, and difficulty of articulation, and died that night.—The PRESIDENT said that the administration of salvarsan had become firmly established. Notwithstanding Mr. Moore's case, he thought it a safe proceeding with proper technical precautions. In the case of vaccination the General Medical Council exacted an extraordinary length of time for its study, in the case of intravenous and other injections they did not exact any education at all. He often gave it in an ambulatory way, but until more was known about it, it was doubtful whether it ought to be given outside hospital. —Mr. ANDREW CHARLES suggested a cumulative effect. —Dr. T. G. MOORHEAD said he could hardly agree that the administration of salvarsan in an ambulatory manner was safe, the last injection given by him having been followed by severe symptoms almost identical with those in Mr. Moore's case. The patient was extremely cyanosed, the tongue swollen, and he was complaining of tingling in the legs; but he was perfectly well next morning.—Sir JOHN LENTAIGNE thought the administration of this drug should not be undertaken unless the patient was under control in hospital for at least three days. In the first four cases in which he had administered it the symptoms were most alarming. If the patients were thoroughly cleared out before injection it would be better. He had tried this and found a very great difference in the violence of the reaction, and the patients were free from constitutional disturbances afterwards. He would on no account treat a patient and allow him to walk home afterwards.—Mr. G. E. P. MELDON asked the exact cause of the patient's death. If death had been directly due to the salvarsan it was probable the patient would have died within the first few hours, but apparently he got over the early reaction and succumbed to a second or later reaction.—Mr. W. I. DE C. WHEELER said he thought Mr. Moore's case by no means the only Dublin patient who died after salvarsan. In the treatment of paralytic cases it was found to be so harmful that in lunatic asylums it had been abandoned. He had given up the intramuscular injection in favour of the intravenous method.—Mr. K. E. L G. GUNN said one of his cases had caused him much anxiety. A youngish man with very bad syphilis, with whom the ordinary treatment had failed, after injection was fairly bad for some hours, but in about 20 hours afterwards he was found to be in a very serious state, and although he recovered he was very near death.—Mr. A. J. M. BLANEY asked, Was Mr. Moore justified in giving salvarsan in the case brought before them?—Mr. PEARSON said in his experience of ten cases it was rather the rule to get no reaction. In some cases the injection was followed by diarrhœa, but in no case was there a great rise in temperature.—The PRESIDENT spoke of his experience of over 40 cases where this drug was administered, and in all except the first he had given it intravenously by gravitation, using a boiled cotton-wool filter. In none of the cases was there anything like a severe reaction.—Mr. MOORE, replying, said that in two or three cases where the patient had a very slight reaction at first, in about 36 hours afterwards there was a severe reaction. Alcoholic patients should be carefully dealt with. He always prepared the patient as for a major operation. The drug should always be made fresh, and the saline solution should be made at the same time with boiling water and then allowed to cool. With regard to the question as to the cause of death in the case brought before the Academy he could not say what really was the cause.

Mr. R. A. STONEY in a paper on Spinal Anæsthesia in Prostatectomy said that one of the most important questions in connexion with prostatectomy was that of a suitable anæsthetic. Owing to the age, condition of the heart, lungs, vessels, and kidneys, these patients were often unsuitable subjects for an anæsthetic, even though much might be done to mitigate its evils by careful previous preparation of the patient and the reduction of the duration of the anæsthesia by rapidity of operating. Another point of great importance, to which sufficient attention was not usually paid, was hæmorrhage. These difficulties were best met by the use of spinal anæsthesia as exemplified by a case in which a 5 per cent. solution of novocaine, with a small percentage of adrenalin, was used. The patient, a man aged 75, had extensive chronic bronchitis and a weak, irregular pulse, pointing to fatty degeneration of the heart, and atheroma of the vessels. The prostate was removed without trouble to the operator or pain to the patient under spinal anæsthesia. There were no unpleasant after-effects. The hæmorrhage, both at the operation and afterwards, was remarkably slight, all tingeing of the urine with blood having ceased after 36 hours. The patient was propped up in bed immediately after the operation, and was sitting in a chair on the third day. He left hospital with the suprapubic wound closed, and passing his urine in a normal manner, one month after operation.—Sir CHARLES BALL said that some

years ago, when novocaine first came into use, he saw a considerable number of cases of spinal anæsthesia in Paris. In most of the cases the anæsthesia was not complete, and in many chloroform had to be administered before the operation was finished. He had also heard of several serious complications arising after operation with spinal anæsthesia, notably paraplegia. He considered ether safer than spinal anæsthesia.—Mr. GUNN had tried spinal anæsthesia in five cases of prostatectomy, and while in theory it might be admirable it had not worked successfully with him. Mr. Stoney had emphasised that spinal anæsthesia lessened the hæmorrhage following the operation. He was of opinion that the bladder regained its tone more quickly after light ether anæsthesia, and that this was a most important factor in the control of post-operative hæmorrhage. He was inclined to think that the general anæsthetic got too much blame. He was informed by those who used spinal anæsthesia in a large number of cases that chest complications were more numerous after it than after general anæsthesia.—Mr. PEARSON understood Mr. Stoney to say that spinal anæsthesia had no effect on the heart and lungs, but in his (Mr. Pearson's) opinion it had a very marked effect on the blood pressure. Nor did he agree with Mr. Stoney that adrenalin minimised the tendency to hæmorrhage.—Mr. STONEY, in reply, said that stovaine did not appear to be so satisfactory as novocaine. The latter was apparently the least toxic of all the drugs, especially when combined with adrenalin, and he thought that in this combination it had not the effect of reducing the blood pressure. He believed that the technique was probably the cause of a great many of the failures. Seeing that the recovery was fairly rapid, the effect of adrenalin in contracting the small vessels more than counteracted the loss of tone in the bladder during the first hour after operation.

## SECTION OF MEDICINE.

*A Triad of Clinical Records.—Gangrenous Dermatitis.*

A MEETING of this section was held on Nov. 10th, Sir JOHN MOORE, the President, being in the chair.

Under the heading of "A Triad of Clinical Records," the PRESIDENT submitted the clinical notes of three cases which had recently come under his observation in practice. The first was that of a married woman, aged 34 years, with chronic perihepatitis and interstitial hepatitis, and the prominent symptoms of ascites, jaundice, and hæmatemesis. She first came under notice in April, 1909, with the signs and symptoms of purpura hæmorrhagica, and complained of a feeling of fulness in the abdomen, which was distended, and of constant drowsiness. On Feb. 14th last 440 ounces of bile-stained fluid were evacuated by paracentesis abdominis. In October, 1911, she went into the Meath Hospital for the third and last time. On Oct. 10th paracentesis abdominis was again performed, and 580 oz. of serous effusion were drawn off. The liver was examined next day; it was enlarged, and its surface was apparently nodular, like a hob-nail liver. After death, on Oct. 18th, the capsules of the liver and spleen were remarkably thickened, and their free surfaces were deeply pitted and indented. The second case was an example of the beneficial effect of thoracentesis in empyema. The patient, a lad of 18, contracted left pleuro-pneumonia, which ran an atypical and unsatisfactory course. Tubercle bacilli were frequently looked for, but never found in the expectoration. Suddenly a localised empyema on the left side seemed to give way into the pleura at large, and the patient became cyanosed and deadly ill. Dexiocardia was discovered one morning. A free opening was made into the left pleura, and large quantities of fœtid pus were evacuated without resection of a rib, the critical state of the patient forbidding such a procedure. The young man made an excellent, though protracted, recovery. In the third case, a rapidly growing mediastinal lympho-sarcoma in a man, aged 71, closely simulated thoracic aneurysm because of the symptoms and signs which it produced. The new growth involved the œsophagus, stomach, and liver, and spread into the neck, compressing the trachea and pushing the larynx towards the left side of the neck. The prominent symptoms were hoarseness and then aphonia, spasmodic cough, dysphagia, vomiting, or rather regurgitation of food, and hæmoptysis. There was an almost complete absence of pain. Microscopically the appearance suggested small round-celled carcinoma, but Dr. William Boxwell, who made the necropsy, was inclined to look upon the growth as a variety of lympho-sarcoma.—Mr. R. H. WOODS said he had seen the third of these cases in consultation. The patient had a peculiar stridor, which the trained ear could detect as being due to stenosis or to compression of the trachea. The pitch of such stridor varied with the situation of the narrowing.—Dr. W. G. SMITH expressed his surprise at Sir John Moore's attaching any importance to "cancerous cachexia." The speaker entirely refused to believe that cancer produces cachexia *per se*, and instanced many uterine and breast cancers of enormous size where no cachexia existed. Cachexia in cancer is due solely to the growths preventing nutrition.—Dr. J. M. FINNY, Dr. BOXWELL, and Dr. T. P. C. KIRKPATRICK also spoke.—Dr. J. LITTLE, from the chair, summed up the discussion, and mentioned that weight may be attached to the effects of leeching in intra-thoracic tumour. Leeches always afforded at least temporary relief in cases of aneurysm.

Dr. F. C. PURSER described a series of 15 cases of Gangrenous Dermatitis, most of them suffering from enteric fever, who had presented a condition fairly to be described as epidemic gangrenous dermatitis. In every case but two, where they were low on the back, the gangrenous areas were confined to the buttocks. One of the patients, a girl aged 6, died from diphtheria, but not of the dermatitis. A sixteenth case, occurring some three to four weeks after the others, was alluded to. It was that of a boy, aged 3½, who died from broncho-pneumonia, double empyema, and purulent pericarditis. In this case alone was the gangrene preceded by inflammation. A detailed account of all the cases will be published later.—Dr. FINNY recalled a case he had shown some years ago at the Academy, which began in impetigo. It had ended fatally. He laid great stress in the search for a cause on the lowered resistance of the patients.—Mr. O'C. J. DELAHOYDE and Dr. H. C. DRURY described cases they had seen, the one of gangrenous dermatitis complicating vaccinia, the other varicella.—Dr. J. A. MATSON and the PRESIDENT also spoke.

## NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

A meeting of this society was held on Nov. 22nd, Dr. F. H. Jacob, the President, being in the chair, when the following cases and specimens were shown:—Mr. A. R. Anderson: Two Calculi removed from a sac in the posterior wall of the bladder by suprapubic operation. The sac walls were quite thin, and apparently consisted of mucous membrane and peritoneum. It was of just sufficient size to contain the stones. There was no prostatic enlargement. The interesting points were the rarity of the condition and the failure to detect the stones after repeated examinations with a sound. Mr. Anderson also showed a child with Sarcoma of the Right Lower Jaw.—Mr. W. M. Willis: Case of removal of the right half of the Thyroid Gland for recurrent attacks of dyspnœa due to the lower end of the thyroid becoming impacted between the sternum and the trachea. Operation was performed under local anæsthesia subsequent to the injection of omnopon and scopolamine.—The President: Case of Fibro-angioma of the Breast (shown last year), showing result of treatment by radium. A lump on the scalp and another in the thigh had also diminished in size, while one on the lip had disappeared; these had had no treatment. A microscopic section of the fibro-angioma was shown. This case has shown a decided improvement under the treatment.—The President also showed a case of Carcinoma of the Pylorus and a case of Cerebellar Tumour, with headache, nystagmus, optic neuritis, and staggering gait.—Mr. A. R. Tweedie: (1) Specimen from a case of Congenital Atresia of the Œsophagus and (2) specimen from a case of Chronic Laryngitis, with microscopical section. Also case of Intranasal Malignant Disease—probably Endothelioma. Removal of upper jaw, portion of the ethmoid and exposure of the sphenoidal sinus (preliminary ligation of external carotid and laryngotomy); microscopical section was also shown.—Dr. C. H. Cattle: A case of Raynaud's Disease in a man aged 58. The attacks began seven weeks ago with numbness and pain in the tip of the left index finger. These sensations gradually spread to all the finger-tips of both hands, which gradually became blue. The thumbs were not affected. The blueness varied in tint and was worse on exposure to cold.—Mr. Kenneth Black: Skiagrams—(1) A case of Dislocation of the Back without fracture; and (2) a case of Osteomalacia of the Tibia.—Mr. E. Bigg and Mr. Black: A case of Fracture

with Dislocation of the Back. The patient was struck in the middle of the back a slanting blow by 14 cwt. of stone. Following primary shock were noticed—first week, absence of left knee-jerk, afterwards recovered; third week and later, anæsthesia of front of left thigh, wasting of left thigh muscles, especially adductor longus and vastus internus. Pain in hip and right lumbar region, especially marked after exercise. These conditions persisted. A skiagram showed fracture and dislocation of the third lumbar vertebra; this vertebra was displaced laterally to the left, it was also rotated to the left, the spinal canal being the axis of rotation. The nerves had probably been trapped as they passed through the foramina and accounted for the trophic manifestations, &c.—Mr. Black and Dr. F. Rupert Snell showed a case of Fracture of the Back without dislocation, and a case of Otitis Media in a boy aged 2.—Mr. C. H. Allen showed a case of Lateral Anastomosis and subsequent resection of bowel for carcinoma of cæcum, and a case of Nephrectomy for Pyonephrosis due to Calculus.—Dr. W. T. Rowe showed a case of Leukæmia in a male aged 62.—Dr. Ryland showed an interesting case of Congenital Syphilis, and Dr. J. Smith a Cretin aged 21 years.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held at the Children's Hospital, Gartside-street, Manchester, on Nov. 21st, and the following cases were shown:—Dr. H. T. Ashby showed a case of Migraine in a child of 4, and an infant suffering from Splenic Anæmia.—Mr. E. S. Bishop and Dr. C. H. Melland showed a man of 23 on whom Partial Gastrectomy had been performed in September, 1911, for cancer of the pyloric end of the stomach, and showed the specimen. The patient had made an excellent recovery and had gained several pounds in weight since the operation.—Dr. J. G. Clegg showed several cases illustrating the value of Trephining of the Sclero-cornea for glaucomatous conditions of the eye.—Dr. N. C. Haring showed cases illustrating the Paraffin Treatment of Atrophic Rhinitis. In one case the paraffin had wandered on to the surface of the nose and had to be surgically removed.—Dr. C. C. Heywood showed a case of Congenital Ataxia in a girl of 6. The condition had markedly improved with massage and general tonics.—Dr. H. R. Hutton showed a girl with Unusually Distributed Paralysis.—Dr. R. W. Marsden showed a case of Phthisis Pulmonalis with a cyst on the true vocal cord, and a case of Congenital Syphilis with complete occlusion of the nasal pharynx and rhinitis caseosa.—Mr. H. H. Rayner showed a boy of 13 with a Dental Cyst arising in connexion with the left upper molars. He also showed skiagrams of the Hip-joints of a child who had been treated for six months by fixation for congenital dislocation of the hip-joints. One joint is in correct position and is strong and useful. The other, not being satisfactorily reduced, has again been put up in plaster.—Dr. J. Wharton showed a case from whom the left eye had been removed for Sarcoma of the Choroid, and showed the specimen. He also showed a case after Capsulectomy for Closed Pupil, a case after the Trephine Operation for Glaucoma, and one with a Dislocated Lens.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in the Faculty Hall, Glasgow, on Oct. 25th.—The President (Dr. A. W. Russell) opened the session with a paper on Cancer of the Uterus: Some Practical Aspects of its Diagnosis and Treatment. He referred to the frequency of malignant disease and belief that it was on the increase, and pointed out that the uterus is the organ most frequently affected. Cancer of the cervix was more frequent, more insidious, and more difficult of early diagnosis than that of the body, and he urged immediate examination in all cases where there was the slightest irregularity of hæmorrhage, or any change in the quantity of the discharges, especially if accompanied with impairment of the general health. He also emphasised the necessity of diagnostic curettage. In discussing the treatment he said that patients were greatly benefited by operations which fell short of the extensive modern operation, such as simple vaginal and abdominal hysterectomy, or even curettage of the necrotic cervix followed by the use of the cautery, or applications such as acetone and formalin. In conclusion, Dr. Russell summarised his impressions of the value of various radical operations, and said that the less extensive (especially Schauta's) seemed to give greater comfort than could be secured by the more extensive operation.—Dr. W. D. Macfarlane, jun., read notes of Three Cases of Malignant Disease of the Uterus treated by Vaginal Hysterectomy. Two were epitheliomata of the cervix of several months' duration, and the third was malignant disease of the body and cervix internally. All three patients were alive and free from recurrence—4, 3½, and 2½ years after operation. During 1910 and 1911, out of 35 cases of cancer of the uterus he had seen, 22 were inoperable; 10 hysterectomies had been performed with 4 recurrences. Of the 22 inoperable cases 7 had died. Operability depended entirely on the point of view of the operator. He selected his cases, and in advanced disease used curette and cautery and regular application of pure acetone through a Ferguson's speculum. He advocated the radical operation (Wertheim's) in early cases, but in advanced cases, with marked involvement of the parametrium and glands, he contented himself with a simple abdominal hysterectomy.—In the discussion which followed Professor J. Munro Kerr said that his practice was to perform the more extensive (Wertheim's) operation. He found that about 70 per cent. of cases were operable and the results were satisfactory.—Mr. D. Duff maintained that the problem to be faced is that of extirpating, not only the tumour, but also the lymphatic area.—Dr. Louise McIlroy was of opinion that the success of incomplete operations was due to the fact that some cancers were of the slow-spreading type.—Dr. D. Shannon advocated Wertheim's operation as the one which held out most hope of cure.—Fresh specimens were shown by Dr Russell, Professor Munro Kerr, Dr. J. M. Stark, Dr. Macfarlane Dr. G. Balfour Marshall, Dr. Shannon, and Dr. Munro Campbell.

# Reviews and Notices of Books.

*Spirochætes: a Review of Recent Work with Some Original Observations.* By W. C. BOSANQUET, M.D. Oxon. With one coloured plate and figures in the text. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 152. Price 12*s.* net.

IN view of the present rapid and voluminous output of scientific work, which shows no signs of diminution, any observer who is content to devote himself to taking stock of knowledge already ascertained is doing an immense service. The work implied by this course is not showy, but it possesses the more solid value of appealing to a much larger audience. Few of us who are engaged in research in different biological fields can afford the time to examine into what our neighbours are doing in their several ways. We have quite enough to keep abreast of our own particular line of investigation. But there is generally time to read through a compendium, if sufficiently short, of labours achieved in other fields; and to those authors who thus facilitate the growth of general knowledge in the scientific world, such as Dr. Bosanquet, we are greatly indebted. Even a pure compilation is welcome; but the volume now before us is far from being definable in such terms, unless indeed every work of a comprehensive nature, and thus necessitating much reference to the work of others, is to be looked upon as a compilation. But there are two kinds of compilations. In the baser sort we have an account of a subject written by a person who is not known in connexion with that subject and whose absence of authority may be accompanied with an absence of the critical faculty due to personal equipment. The proper type of a work of this nature is like that before us, where the author has devoted time to the subject matter and has embodied in his *résumé* facts known to him at first hand.

The subject upon which Dr. Bosanquet writes is one of as great interest as is any subject to-day. The organisms known roughly as spirochætæ not only have a purely biological interest of their own, but are associated with many diseases the etiology and cure of which are a matter of moment. But in spite of what is already known about

these organisms—and the author gives a bibliography "by no means exhaustive," which nevertheless occupies 20 pages—their systematic position in the organic world is not at all definitely settled. It is, in fact, uncertain whether they are protozoa or more nearly allied to the schizomycetes (bacteria). In favour of the former view is the fact that they cannot be caused to multiply in "cultures," like most bacteria. Here, however, we cannot speak with final decision, for there are bacteria which lack this characteristic of their group. The question of structure is also one which has many exponents not in entire agreement with each other. A certain amount of doubt would seem, according to Dr. Bosanquet, to complicate some of the more important aspects of these creatures, such as, for example, the actual existence of the spiral vibratile membrane. It may be remarked, however, that in regard to this point and to other salient points of anatomical structure two recent communications in the *Quarterly Journal of Microscopical Science*, published too late to be of service to Dr. Bosanquet, confirm the animal view of the nature of spirochætæ, and appear to settle some disputed points.

While there is this difficulty about the larger forms of spirochætæ it is clear that the doubt must be much greater when we come to study the smaller forms, such as the parasites of syphilis and yaws. What is known, however, would appear to tend towards a uniformity between the larger and smaller spirochætæ. In view of the great importance which these organisms have gained of late years, particularly since their discovery by Schaudinn in syphilis, it is remarkable to note and remember that the first species of the group or genus which was discovered was a purely free-living form, named by Ehrenberg spirochæta plicatilis. This is, moreover, not the only free-living form known to science. For the hot springs of Dax yielded to Dr. Cantacuzene so lately as 1910 a species which he named S. daxensis and which is also one of the larger forms. It is, of course, possible that no specific differences really divide this form from Ehrenberg's original spirochæta. Indeed, as the author of the present volume admits, the question of species *versus* forms in this little-known group is another of those matters which are by no means settled. Inasmuch as Dr. Bosanquet enumerates over 50 organisms of this genus to which specific names have been applied, it is probable that future researches will necessitate some reduction. But it is plain that the time for a "catalogue raisonné" has not yet arrived.

In the meantime, Dr. Bosanquet sets forth those forms which have been separated, and at least presents us in an easily assimilable form with the main structural and classificatory facts known respecting this most important assemblage of organisms. He is to be congratulated on having compressed so useful a *résumé* into so few pages. The price of the book is rather high.

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*The Prevention of Infectious Diseases.* By ALVAH H. DOTY, M.D., Health Officer of the Port of New York. London and New York: D. Appleton and Co. Pp. 281. Price 10*s.* 6*d.* net.

IN his preface the author tells us that he has aimed to deal with prevention of infectious diseases from a practical standpoint, to present the latest knowledge relative to their transmission, and "so far as possible to prove the fallacy of certain theories regarding this subject which have long been accepted and which aid in the extension rather than in the prevention of these diseases." Although the book has a comprehensive title it is chiefly concerned with the prevention of infectious diseases brought by ships, and in this country will be mainly in demand by medical officers of our port sanitary authorities. It may be said at once that many of the fallacious theories against which Dr. Doty argues—for example, that the occurrence of infectious disease among the passengers or crew calls for rigorous disinfection of cargo—have long been abandoned, if, indeed, they ever were entertained, in the sanitary practice of British ports, and that some of the preventive measures which are advocated—such as the provision of an adequate isolation hospital at every port—have so long been thought essential to our home administration that it is surprising to find it necessary to press for them, on the ground of "latest knowledge," in the United States.

While adducing many facts to show that in most epidemic diseases infection by fomites, though it exists, is ordinarily a very minor matter, Dr. Doty lays great stress on carrier and ambulant cases and the importance of detecting and isolating them. His views on this matter will meet with general acceptance, although the practicability of some of the suggestions made—for example, the routine daily examination of the throat of every school child—is open to question. When dealing with the practical work of port sanitation Dr. Doty has much sound advice to give. He insists, and rightly, that on vessels coming from ports which are technically infected the preventive measures necessary in the case of the first-class passengers or the principal officers of the ship are of a different order from those required where the steerage passengers or crew are concerned. The distinction should not, however, be carried too far. Dr. Doty tells us that "from one of the vessels arriving at New York after a voyage of 14 days from Naples were removed to quarantine six steerage passengers who had applied for treatment for minor affections during the voyage. None of these had had intestinal trouble, and all were apparently well on arrival, but were transferred as a matter of further inspection. After this group had been at quarantine for two days some were given two grains of calomel at bed-time and the next day a full dose of saline cathartic. The following day one of this number was in a condition of collapse and died within 24 hours. The autopsy did not reveal the cause of death, but the bacteriological examination of the intestinal contents furnished prompt evidence of cholera, which was subsequently confirmed by an exhaustive bacteriological examination. The brisk cathartic was undoubtedly the agent which called forth the activity of the organism." Steerage passengers may be inclined to ask whether the protection of the United States from cholera carriers cannot be effected by milder methods.

Much stress is laid on the importance of preventive measures, especially those against cholera and plague, being taken at the port of departure rather than at the port of arrival, and also on the necessity of conscientious and methodical work by ships' surgeons during the voyage. Such questions as these will no doubt be considered at the International Sanitary Conference, which is now sitting, and we may expect that some of the views which Dr. Doty holds will be developed in future international agreements. The recommendations for plague prevention on the whole coincide with British methods. The author considers that, subject to proper inspection, there is no reason for any detention of passengers or crew, or measures of rat destruction, if there is no sickness on arrival and the vessel has been at least eight days in transit from the infected port. He recommends caution in accepting the view that plague transmission is solely a matter of the plague-infected rat and associated fleas. All attempts to destroy rats on suspicion of their being plague-infected should be thorough if they are to be of any use. The escape of rats during unloading of cargo must be prevented, and complete destruction of rats in the empty vessel—preferably

by sulphur dioxide—must be secured, all dead rats being removed. The final chapter of the book gives a useful account of different mosquitoes associated with disease, including some personal observations by the author on the breeding places of Culex solicitans, the stripe-legged mosquito, which is said to hibernate in the egg, not as the winged insect. The eggs are laid in the soft ground of the swamp land of the Atlantic coast, and apparently the only practical method of their extermination is general land drainage.

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*Diseases of the Nose and Throat, comprising Affections of the Trachea and Œsophagus.* By STCLAIR THOMSON, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng., Physician for Diseases of the Throat and Professor of Laryngology in King's College Hospital. With Illustrations. London: Cassell and Co., Limited. 1911. Pp. 791. Price 25*s.*

Dr. StClair Thomson has enriched the literature relating to the diseases of the nose and the throat by embodying in a text-book the conclusions and results of his own experience. That experience, covering some score of years of special practice, is enhanced by a long period of experience gained in general practice. This latter experience, as Dr. Thomson very truly remarks in the preface to his work, has not only saved him from taking too narrow and too mechanical a view of the diseases of the air-passages, but has also helped him to realise their increasing importance in everyday work, and has enabled him to supply such information and assistance as a practitioner is likely to require.

The volume contains close upon 800 pages of closely printed matter. It is divided into 11 parts. The first part is introductory and includes a chapter on the Special Conditions and Dangers of Operations. It is a chapter that should be read, not only by senior students, but also by practitioners before undertaking operations upon the nose and throat. In discussing the "after-results" and the "insufficient or excessive removal of tissue" Dr. Thomson corroborates some of the remarks made recently by ourselves in an annotation on adenoids and tonsils (THE LANCET, Nov. 4th, 1911, p. 1284). The first five parts of the volume deal with diseases of the nose, of the accessory sinuses, of the naso-pharynx, and of the pharynx and tonsils, and form a *résumé* of accepted knowledge reinforced by the lessons of long practice. Part VI. is devoted to diseases of the larynx. The diseases of the trachea and the œsophagus, in view of the progress made in the direct examination of these regions, naturally receive separate consideration. The chronic infective diseases of the upper air-passages are dealt with together. The remaining three parts are devoted respectively to acute specific fevers in relation to the nose and throat, to the nose and throat in some general affections, and to some operations. Dr. Thomson, whilst keeping in mind that many operative measures should be entrusted to the hands of the man of special experience, still has thought it well to describe them with some fulness, indicating those that fall within a more general scope, and pointing out others that are fraught with particular danger or require exceptional skill. A complete account of the anatomy and physiology of the regions studied has not been attempted, but the space has been given up to the clinical and pathological bearings. The book is illustrated with 18 plates, many of which are coloured, and 294 figures in the text. At the end of the volume will be found a large number of useful formulæ.

The author tells us in his preface that in writing the book he has striven to keep two things constantly in mind: one, that it should serve as a guide to senior students; and the other, that it should prove a volume of ready reference to those engaged in the exercise of their profession. By the senior student the volume will be found to be more than sufficient for his immediate purposes, and by the practitioner, with the aid of the excellent index prepared by Mr. Archibald Clarke, the volume will be found to be one of ready reference. In it the practitioner will find a comprehensive study of the whole subject that will help him to determine what is amiss with his patient, what he himself can do for the patient, and what is the most he can expect from the assistance of the specialist.

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*Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidney and Urinary Bladder.* By PAUL M. PILCHER, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital; late Surgeon to the German, Lenev, and Samaritan Hospitals of Brooklyn, &c. With 233 illustrations, 29 of them being in colours. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 398. Price 24*s.* net.

*Cystoscopy as Adjuvant in Surgery, with an Atlas of Cystoscopic Views and Concomitant Text for Physicians and Students.* By Staff-Surgeon Dr. O. RUMPEL, Lecturer in Surgery at the University of Berlin. Only authorised English translation by P. W. SHEDD, M.D. New York. With 85 illustrations in colour on 36 plates and 22 textual figures. London: Rebman, Limited; New York: Rebman Company. Pp. 131. Price 42*s.* net.

THE value of the cystoscope in the accurate diagnosis of diseases of the bladder and kidneys is definitely shown by the number of works that have been recently published describing the process of using the cystoscope and detailing the conditions observed. Dr. Pilcher's work is probably the largest and most complete book on the subject which has appeared, and it deals systematically with all parts of the subject. It commences with an account of the indications for cystoscopy, and some cases are quoted showing its value. Then follows a description of the various types of cystoscopes, with a discussion of their relative merits, the author expressing his preference for the Otis examining cystoscope. The mode of preparation of the patient and of conducting a cystoscopic examination are then described. With regard to anæsthesia, Dr. Pilcher holds that in the great majority of cases no anæsthetic is necessary; and when one is required he considers that a local anæsthetic is sufficient. A useful chapter is that devoted to a description of what is seen in the bladder, and the variations which may occur in health are described, and then those which occur in disease. The methods of investigating the functional activity of the kidneys are discussed, and the author prefers the indigo-carmine test, as ureteral catheterisation need not be practised for its efficient working. The next section deals with the diseases of the kidneys as revealed by the cystoscope, and a chapter on the therapeutic uses of the instrument follows. The book contains a large number of excellent illustrations, and many of these are coloured.

The use of Staff-Surgeon Rumpel's atlas will be confined to a comparatively small section of surgeons, and yet its value is very high in the diagnosis of morbid conditions of the bladder and kidneys. The use of the cystoscope is not at all difficult, as to some extent is made apparent in Dr. Pilcher's work just noticed, but much experience is needed to interpret correctly the cystoscopic appearance, and a good atlas such as this will greatly assist the inexperienced. The text of this volume will doubtless prove of use, but the most valuable part is certainly the large series of coloured illustrations. These have been carefully drawn and excellently reproduced. The author describes and discusses the methods of estimating the renal function; he considers that the phloridzin test has, despite its reliability, the disadvantage of requiring a certain delicacy in execution which impairs its value. He looks upon bi-ureteral catheterisation as the most thorough and reliable method of comparing the function of the two kidneys, and in his

opinion no method of determining renal function surpasses cryoscopy in the accuracy of its results.

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*Sémiologie Réelle des Sections Totales des Nerfs Mixtes Périphériques.* By HENRI CLAUDE and STEPHEN CHAUVET. Paris: A. Maloine. 1911. Pp. 95. Price 4 francs.

THIS short monograph is devoted to a consideration of the symptomatology of complete transverse lesions of peripheral nerves, viewed solely from the standpoint of clinical examination. It contains little that is new. The authors remark in their preface that with the exception of the researches of Head, Rivers, and Sherren,[1] and the work of Babinski and Tournay, the clinical aspect of lesions of mixed peripheral nerves has hitherto been neglected; and they give in this brochure the results of their own examination of various cases. In some respects their methods of examination appear to be rather inadequate, notably as regards localisation, the compass test, sense of position, and the temperature sense. On the other hand, they bring forward data in regard to vaso-motor and osseous changes subsequent to complete transverse lesions of mixed nerves, and this part of the monograph will repay perusal.

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*Die Therapie der Magen- und Darmerkrankungen.* Von Sanitätsrat Dr. CARL WEGELE. Fourth revised edition. With 11 illustrations. Jena: Gustav Fischer. 1911. Pp. 458. Price, paper, 7.50 marks; bound, 8.50 marks.

DISORDERS of the stomach and intestines of all degrees of severity are so common and are responsible for so much discomfort and ill-health that a practical work on their treatment is likely to serve a very useful purpose. The appearance of a fourth edition of Dr. Carl Wegele's book suggests that its utility has received recognition, and after a careful examination of its contents we can affirm that it deals in an exhaustive and instructive manner with the treatment of these conditions. The author has evidently a wide and up-to-date knowledge of the literature of the subject, to which numerous references are made on nearly every page, and he has obviously in addition a thorough practical experience, so that his recommendations have usually a personal basis and are given with all necessary details. Prescriptions are printed in full, and any procedures advised are described at length.

The book is divided into two sections. The first deals with the general treatment of digestive disorders; the second with the special treatment of individual conditions. In the first section considerations of diet are carefully examined. General directions are given in regard to the various factors influencing the digestibility of foods, and then the individual articles of diet are categorically considered, their heat value and nutritive qualities being especially dealt with. The various physical methods of treatment, including lavage, massage, the various forms of enemata, electrical and bath procedures are then carefully reviewed, with their indications and contra-indications. A long chapter is devoted to the modes of action and uses of the various medicinal substances employed in the treatment of gastro-intestinal conditions. This chapter, which is based upon an exhaustive study of the literature, is one of the most interesting and useful features of the book, since it contains information not usually to be found in text-books, but only in monographs. Another chapter deals with the indications for operative interference in diseases of the alimentary tract, and gives numerous references to the statistics of the more important operations in appraising their value.

In the second section the individual diseases and disorders of the stomach and intestines are classified, and their treatment is fully considered. The classification is simple and comprehensive, while the directions in regard to treatment are exhaustive. At the same time Dr. Wegele is careful to indicate his own preference in regard to the various methods described. In each case carefully selected diets are given. The description of the treatment of gastric ulcer is worthy of mention as an admirable review of the various methods at present employed. Other conditions of which the accounts given are noteworthy are gastric atony and its consequences, the various disorders of gastric secretion, neuroses of the stomach and intestines, chronic constipation, intestinal auto-intoxication, and appendicitis. The arguments for early operation in the last-mentioned condition are set out, and the general indications for surgical treatment are also reviewed.

Dr. Wegele's book is an important addition to the literature of digestive diseases, and a valuable work of reference. It is thoroughly modern, and contains more references to English and American monographs and papers than is usual in German text-books. In this connexion it is interesting to notice that Dr. Wegele remarks upon the striking frequency of duodenal ulcer in England and America, as judged by the statistics of the surgeons of those countries. The book is of convenient size, well printed, and easy of reference. It contains an index of authorities as well as one of subjects.

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*Racial Decay: A Compilation of Evidence from World Sources.* By OCTAVIUS CHARLES BEALE. London: A. C. Fifield. Sydney: Angus and Robertson, Limited. 1911. Pp. 439. Price 5*s.* net.

Mr. Beale may be known to our readers as the Royal Commissioner appointed under the Australian Government to inquire into quack medicines. He was appointed in 1906, and this inquiry was the outcome of a previous inquiry in 1903 in New South Wales regarding the decline in the birth-rate and infant mortality. The present volume, although not official as was the former book, is an extended investigation of Mr. Beale's work begun as a Royal Commissioner, and deals with one of the most important problems of these times—namely, racial decay and the causes which are leading thereto.

The work is arranged in what may be called a tabular form—i.e., extracts from various books, pamphlets, statistical publications, and Government reports are given, with a running commentary by Mr. Beale. Division I., which is called the "Genesis of the Carcinoma," treats of Malthus's works and the expansion thereof by ill-educated reformers. The "carcinoma" is the wastage of child life, either prenatal, as by abortion or prevention of conception, or postnatal, as by the appalling mortality at early ages of child workers in factories, such as used to occur in Manchester some 60 years ago. Division I. therefore also deals with the Ten Hours Bill of 1847 and the bitter opposition of the factory owners' representatives.

The remainder of the work deals with depopulation in various countries, France being taken first, because in that country the evidence of depopulation is most marked. But the plague is widespread in other countries, too notably in our own, and the gist of Mr. Beale's book is that the practices of the prevention of conception, or when this fails, of procuring abortion, are affecting for the worse nearly all the great European Powers. Medical men are aware that racial mischief is being done, and our readers cannot fail to remember the series of articles upon Quacks and Abortion published in these columns in 1898 and 1899. In dealing with the pathological consequences of the practices above referred to, is grim reading. Mr. Beale and the authorities whom he quotes possibly protest too much in attributing such an appalling train of diseases and symptoms to the practice

of prevention. Dr. Bergeret's remarks as quoted by Mr. Beale read somewhat like the advertisements of self-abuse quacks.

The evil is widespread, the United States, and to a very serious extent Australia and New Zealand, are affected. One very notable fact is that the decline in the birth-rate is most marked among the upper classes—that is to say, among those whose circumstances are such that if they had children such children would stand a better chance in the race of life. This fact is very significant. It is nothing new; the same situation arose in the Roman Empire and was exposed in fiery denunciation by Juvenal:—

> Sed jacet aurato vix ulla puerpera lecto.
> Tantum artes hujus, tantum medicamina possunt,
> Quae steriles facit, atque homines in ventre necandos
> Conducit. (Sat. vi. 593 et seq.)

Social Reform is the cry of the present day, but the Governments of all countries take but little notice of what is perhaps the most prominent evil of the times. The trade in abortefacients, real or pretended, and in preventives is naked and unashamed, while the press in many cases lends aid in enlarging the market. It is true that a people cannot be made moral by Act of Parliament, but Parliament could at least see that incentives to immorality are not allowed the liberty of public advertisement.

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*Leitfaden der Akustik für Ohrenärzte.* By Dr. M. TH. EDELMANN, Prof. h.c. der Kgl. Techn. Hochschule, München. With 80 illustrations and a portrait. Berlin: S. Karger. 1911. Pp. 118. Price 4 marks.

Professor Edelmann opens his thesis with a description, freely illustrated, of the various forms of vibration, proceeding to demonstrate by diagram many of these points. He next proceeds by investigation and demonstration to elucidate the principles of the strength and the height of tones, and the intervals between two tones, this being accompanied by a table showing the numerical vibrations of various notes. He then illustrates and discusses the effect of two tones or notes produced simultaneously, and shows the effects of their interfering with each other.

Tuning-forks next come under review. Afterwards the overtones of the tuning-forks which possess them and the effect of tuning-forks without overtones are discussed. A full description follows of Bezold's tuning-forks, and the whistles or pipes for the improvement of which Professor Edelmann has already become so well known. Then is given information about sound-plates and their employment as a means of comparison with tuning-forks, a short note on König's tubes and Schültze's monochord, and a description of the continuous tone series with the resonators. He also deals with sirens and all other forms of sound-producers. On p. 98 the author discusses the early acoustic investigations, and concludes with a description of a large model of the hearing apparatus demonstrating the mechanism of hearing.

This production of an erudite man is of great value, and we trust that it will find a translator, so that material of such importance shall not be confined to those able to read German sufficiently to enable them to derive full benefit from its perusal. It is not too much to say that nowhere else is there a better description of the acoustics as interesting the aural surgeon.

The portrait referred to in the title is a portrait of the late Professor Bezold, to whom the book is dedicated.

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*Health and Disease.* By W. LESLIE MACKENZIE, M.A., M.D. Aberd., Medical Member of the Local Government Board for Scotland. London: Williams and Norgate. 1911. Pp. 244. Price 1*s.* net.

THIS volume, which Dr. Leslie Mackenzie has contributed to the attractive little series of shilling books in the "Home University Library of Modern Knowledge," comprises 16 short essays on various topics, such as What is health? death-rates and their interpretation; how antitoxins are produced and prepared; and a discussion of the tubercular diathesis; disease and destitution. He concludes by discussing insurance methods of preventing sickness and the evolution of the health movement. The essays will, we are sure, be read with pleasure and profit by a considerable public. Though the subjects are somewhat disjointed there runs throughout the book a strong note of faith in the improvement of the race by attention to individual and to public health, as well as the author's sense of the greatness of the duties which the medical profession is called on to fulfil both in preventing and curing disease. Dr. Mackenzie's method is essentially that of the preacher, and most of his medical readers will have their own reservations to make on the dogmas which he confidently expounds and on the "heresies"—such as belief in hereditary disposition to disease—which he regards as anathema. Some, if so unhappily and modestly constituted, may even find that the author's exaltation of the medicine of to-day, and his prophecies of its achievements to-morrow, leave them a little uncomfortable; they could wish they had been reading the writings of a layman about their profession rather than the views which a distinguished member of their profession presents in a volume which we feel confident will appeal strongly to laymen. The lay reader will find it difficult to resist being carried away by Dr. Mackenzie's zeal, but in doing so may be considerably disquieted at the possible issues of development on such lines as the author would seem to forecast. But both classes of critics will no doubt be the better for a shaking, and all who have not become cynical past redemption will find encouragement and enjoyment in Dr. Mackenzie's sermons.

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## LIBRARY TABLE.

*Transactions of the Royal Academy of Medicine in Ireland.* Vol. XXIX. Edited by J. ALFRED SCOTT, M.A., M.D. Dub., F.R.C.S. Irel., General Secretary, Professor of Physiology, Royal College of Surgeons in Ireland. Dublin: John Falconer; London: Baillière, Tindall, and Cox; Edinburgh: James Boyd; Bristol: John Wright and Co. 1911.—Besides the lists of officers, fellows, members, and associates, the rules, the annual report, and the treasurer's report, this volume contains the papers that have been read before the Academy in its respective sections of Medicine, Surgery, Obstetrics, Pathology, State Medicine, and Anatomy and Physiology. A considerable proportion of these have already appeared in our columns, either in full or as reported in the Academy's proceedings. They will prove of interest in their collected form.

*School Life.* Edited by T. N. KELYNACK, M.D. Vict., M.R.C.P. Lond. London: Charles H. Kelly. 1911. Pp. 160. Price, limp cloth, 1*s.* net; cloth boards, 1*s.* 6*d.* net.—This is the third of the series of National Health Manuals, the object of which is to provide in concise language and compact form essential facts, and to indicate in simple words the underlying principles upon which the preservation of health and the prevention of disease are based. The chapters in this book are by different writers, and each writer has been granted a free hand in dealing with his subject. They are as follows: School Life, by the Editor; Characteristics of School Children, by Mr. A. S. Arkle; the Hygiene of the School, by Dr. Charles Porter; Medical Inspection of the School Child, by Mr. J. C. Bridge; the School Child Worker, by Dr. D. M. Taylor; the Physical Education of the School Child, by Dr. F. Barrie Lambert; the Personal Hygiene of the School Girl, by Dr. Myra Mackenzie; the Personal Hygiene of the School Boy, by Dr. J. O. Symes; Dental Condition in School Children, by Mr. C. Edward Wallis; Mentally Defective Children, by Dr.

C. P. Lapage; Physically Defective Children, by Dr. H. H. Rayner; the School Child and Citizenship, by Dr. A. D. Edwards. There is for each chapter an appendix containing a bibliography. The book covers all aspects of the subject, and will be of use to school teachers, inspectors, parents, and to medical men and others especially interested in the school problem.

*Quackery (Quack Remedies and Quack Practice) and Medical Law Reform: A Plea for a Royal Commission.* By HENRY SEWILL. London: P. S. King and Son. 1911. Pp. 32. Price 6*d.* net.—This pamphlet has been printed in order that it may be widely distributed to open the eyes of the public to the nefarious doings of quack medicine mongers. The author shows in the preface by specific cases the difficulty of obtaining aid from the lay press. The work is a reprint from *Vanity Fair* of articles on "Secret" Remedies, Quackery and the Ethics of Journalism, Quackery, Quackery for Women, and Medical Law Reform and Quackery. It is a good one for its purpose in all respects but one—that sixpence is a good deal to give for a pamphlet for general presentation; and although it is stated that in quantities of a dozen and upwards it may be obtained at reduced rates on application to the publishers, the rates will have to be very materially reduced before any large number will be purchased for general distribution.

## JOURNALS AND MAGAZINES.

*Quarterly Journal of Experimental Physiology.* Edited by E. A. SCHÄFER, F. GOTCH, W. D. HALLIBURTON, C. S. SHERRINGTON, E. H. STARLING, and A. D. WALLER. Vol. IV., No. 3, Oct. 24th, 1911. London: Charles Griffin and Co. Price 6*s.*—In this number will be found the following articles:—1. R. A. Chisolm: On the Size and Growth of the Blood in Tame Rats. Although the title of R. A. Chisolm's paper looks a little odd, its author's object was to determine the total amount of hæmoglobin, the number of red cells, and the blood volume of normal rats preliminary to an inquiry into the influence of transplanted malignant tumours on the constitution of the blood. The number of red cells is 9,000,000 per cubic millimetre. The other details will be found in the summary. 2. W. Mulder: Analysis of the Rotation-Reflex in the Frog. The name of W. Mulder is indelibly associated with Utrecht. The rotation-reflex referred to is that shown by a frog when placed on a horizontal turning disc with its head towards the disc edge. The head makes a reflex movement which is directed against the sense of motion of the disc, and is due to stimulation of the labyrinth by the circular acceleration. The author finds that the speed of the reflex is directly proportional to the amount of the stimulus, but the relation is not logarithmic, as is the case with sensations. 3. Jasper Halpenny and John A. Gunn: Note on Extirpation of Thyroid Gland in Monkeys. The note on the thyroid derives its interest from the experiments having been made in monkeys, as the authors thought it advisable, as a preliminary to other work on the thyroids, to repeat the experiment of simple extirpation in monkeys. It is to be noted that some of the experiments were done in Manitoba during the depth of winter, when the temperature during the night must frequently have fallen very low. 4. H. M. Vernon and H. R. Stolz: The Influence of Forced Breathing and of Oxygen on Athletic Performance. One of the authors of the fourth article (H. R. Stolz)—is a trained athlete, and the results of running a measured distance (387 yards) 20 times under different conditions are given in a number of tables. The authors arrive at the conclusion that deep breathing or oxygen breathing cannot augment the running powers of a well-trained and unfatigued man for distances of a quarter of a mile or less. 5. Sutherland Simpson: Improved Technique in the use of Schäfer's Frog-Heart Plethysmograph. This paper is of interest only to physiologists. 6. Sutherland Simpson and Andrew Hunter: The Possible Vicarious Relationship between the Pituitary and Thyroid Glands. The paper deals with the authors' observations on sheep and lambs. Removal of the thyroid does not lead to the appearance of iodine in the pituitary, and it would seem that in thyroid insufficiency the pituitary does not vicariously take on the function of the thyroid. 7. T. Graham Brown: Studies in the Physiology of the Nervous System—VIII., Neural Balance and Reflex Reversal, with a Note on Progression in the Decerebrate Guinea-pig. T. Graham Brown's eighth contribution to his Studies in the Physiology of the Nervous System deals with a highly technical physiological subject, the reversal of reflex action. 8. L. Bull: On the Simultaneous Record of the Phono- and Electro-cardiogram. L. Bull's paper is one of a highly technical character, and will interest physiologists. 9. R. A. Krause: On the Urine of Women under Normal Conditions, with Special Reference to the Presence of Creatin. R. A. Krause finds that creatin is present in the urine of women immediately after menstruation; it may or may not be present during the intermenstrual period. It is present in the urine of women during pregnancy. Observations on a bitch during the œstrous and anœstrous periods confirm the existence of a correlation between creatinuria and the female sexual cycle.

*The Dublin Journal of Medical Science.*—In the November issue is published a paper by Dr. J. Boyd Barrett on Some Surgical Symptoms in Children, in which he deals specially with the phenomena accompanying hypertrophic stenosis of the pylorus and infection of the urinary tract. He notes that thread-worms in the appendix may give rise to a condition simulating appendicitis. Dr. S. F. A. Charles discusses chorea and its treatment, strongly recommending trional for the latter purpose.

*The Birmingham Medical Review.*—The treatment of aneurysm is discussed by Dr. T. Stacey Wilson in the November number of this magazine. He has had favourable results from careful application of the "old-fashioned and ordinary" method of treatment—rest and full doses of iodide of potassium, and believes that the mode of action of the remedy is by increasing the resisting power of the wall of the sac. Dr. K. Douglas Wilkinson records a case of heart-block in a young woman, aged 24 years, and discusses the pathology of the condition.

ERRATUM.—In our review of the new edition of "Diseases of the Lungs," by Sir R. Douglas Powell and Dr. P. Horton-Smith Hartley, an error has occurred in stating that the two plates illustrating Curschmann's spirals appeared in the previous edition of this book. Both the figures on this plate, as well as the one facing it in the text and the plate showing casts in plastic bronchitis, are from drawings specially prepared for this edition.

# New Inventions.

## AN IMPROVED COLOTOMY TUBE.

THE paramount importance of evacuating the septic and highly toxic contents of the bowel with the least possible delay in cases of acute obstruction has long been recognised. Unfortunately, this is not always an easy matter, and after fixing the ordinary colotomy tube of Paul's pattern into the gut attempts to empty the bowel are confined to the giving of aperients by the mouth, and more recently the administration of eserine subcutaneously to stimulate peristalsis. As, however, vomiting may continue for some hours or even days after the operation aperients are frequently of little use. The

most effective and quickest method of emptying the bowel is to wash out the contents by means of an enema; this, however, cannot be done with the colotomy tube at present in use. On several occasions I have tried to do this by making a small hole in the large rubber escape tube used to carry off the bowel contents and introducing fluids while the tube is clamped below the hole. This has proved unsatisfactory, as leakage occurs subsequently through the hole and the tube is rendered useless in future.

Some months ago Messrs. Weiss and Son made to my pattern a colotomy tube (see illustration) which avoids these drawbacks and allows the bowel to be flushed without inconvenience. The tube differs from the one in general use in the fact that a small short arm is inset into the convexity of

the curve, so that it has the same direction as the limb of the tube which is inserted into the bowel. When in use a small piece of drainage tube about six inches long is fitted on to the short arm. After the tube is fastened into the bowel the end of the drainage tube will project above the dressings, and must be secured to prevent the escape of bowel contents; this may be done with a pair of clip forceps or a safety pin attached to the binder or the tube may be tied in a simple knot. After the first gush of fæcal material has passed the interior of the bowel can be washed out by means of a douche can or an enema syringe, the fluid being led through the small rubber tube into the interior of the colotomy tube. The large escape tube is flushed out and then clamped, after which the fluid enters the bowel. In this way enemata can be given at short intervals without disturbing or soiling the dressings. The ordinary enemata can be employed, but if an irritant such as turpentine is used only half the usual strength should be given on account of the inflamed state of the bowel.

Another great advantage is that after the bowel is cleared, which can be done usually in about six hours, fluids such as warm saline can be given in the same manner as is employed in septic peritonitis. It is rapidly absorbed and is useful in replacing the amount of fluid lost by the previous vomiting. If the vomiting has been present for some days another element antagonistic to the patient has to be reckoned with, namely, actual starvation, as nothing taken by the mouth has been retained in the stomach; for this reason it is a good plan to add to the saline sufficient glucose to make a 2 per cent solution. This can be absorbed directly into the blood and used as a food.

I have used these tubes on more than a dozen cases and find them a great advance on the old ones, which serve merely as an outlet for the bowel contents. The tubes are made in four sizes, ranging in diameter from half an inch to an inch and a quarter.

DUNCAN C. L. FITZWILLIAMS, Ch.M. Edin.,
Grosvenor-street, W. F.R.C.S. Eng. and Edin.

ASSOCIATION OF CERTIFYING FACTORY SURGEONS.—The annual dinner of this association will be held at the Trocadero Restaurant, London, on Friday next, Dec. 8th, at 7.30 P.M. Communications should be addressed to the secretary, 16, John Dalton-street, Manchester.

## CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on Nov. 23rd, with Sir FRANCIS CHAMPNEYS in the chair.

The following letter was considered from the clerk of the Privy Council as to the power of the local supervising authority to make a rule prohibiting a midwife from laying out a dead body:—

Privy Council Office, 19th October, 1911.

To the Secretary, Central Midwives Board.

SIR,—Referring to your letter of the 13th instant enclosing a copy of a letter from the town clerk of St. Helens as to the power of the local supervising authority to make a rule prohibiting a midwife from laying out a dead body, I have to point out, for the information of the Central Midwives Board, that it is not suggested that the local supervising authority has any authority under the Midwives Act, 1902, to make such a rule, but that Rule E, 17 (b) of the Board's rules, as finally drawn, was intended to save any right possessed by the councils of counties or county boroughs under their general statutory powers to make a rule on the subject, it being better that there should be a general rule in the matter, rather than that it should be left to the discretion of the authority in particular cases.

I am, Sir, your obedient servant,
(Signed) ALMERIC FITZROY,
The Clerk of the Council.

The Board directed that a copy of the letter from the clerk of the Council be forwarded to the town clerk of St. Helens.

A letter was considered from the superintendent of the Gloucester District Nurses' Home, inquiring as to whether a midwife should undertake a case when she believes it would be better for the patient to engage a medical man, and as to her duty to notify a stillbirth when engaged as a maternity nurse under a medical man. The Board decided that the reply should be: (*a*) That the question of whether a midwife should undertake a case or not is outside the rules, and must be decided by the exercise of the ordinary judgment of a prudent midwife. (*b*) That a midwife acting as a maternity nurse under the direction of a qualified medical practitioner is not bound to notify a stillbirth under Rule E, 21.

A letter was considered from Dr. W. E. Fothergill, of Manchester, one of the Board's examiners, as to lengthening and raising the standard of training, and a letter was considered from Mr. E. Sergeant, county medical officer for Lancashire, to the same effect. The Board decided that the letters of Dr. Fothergill and Mr. Sergeant be noted for consideration at the next revision of the rules.

A letter was considered from Dr. J. M. Cowie, medical officer of health of Burton-on-Trent, inquiring as to the course to be adopted with regard to midwives who can neither read nor write, or who are incapable of learning to take or record pulse and temperature. The Board directed that it be pointed out to Dr. Cowie that it lies with the local supervising authority to take action in the first instance against midwives who are unable to comply with the rules of the Board, and that the Board would deal with any midwife against whom the authority had found a *primâ-facie* case of malpractice, negligence, or misconduct.

A letter was read from the superintendent of the Cornwall County Nursing Association, inquiring whether a midwife may attend maternity cases and nurse cases of enteric fever at the same time. The Board decided that the superintendent of the Cornwall County Nursing Association should be referred to Rule E, 5, which runs as follows:

> Whenever a midwife has been in attendance upon a patient suffering from puerperal fevers, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances, to the satisfaction of the local supervising authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the local supervising authority, all washable clothing should be boiled, and other clothing should be sent to be disinfected by the local sanitary authority.

A letter was considered from the clerk of the Aberdare urban district council forwarding a copy of a resolution passed by the council expressing the opinion that a period of 24 hours is too short a quarantine for a midwife who has been attending on virulent cases of puerperal fever. The Board directed that the attention of the clerk of the Aberdare urban district council be called to the terms of Rule F, 2, which prescribes the procedure in cases where it is found necessary to suspend a midwife for a longer period than 24 hours.

A letter from Dr. Comyns Berkeley, obstetric physician, Middlesex Hospital, on behalf of the weekly board of the hospital, with regard to a complaint made by a certified midwife of the inadequacy of the training given at the hospital, was considered, and the Board decided that all further action should be left in the hands of the chairman.

# THE LANCET.

*LONDON: SATURDAY, DECEMBER 2, 1911.*


## The National Insurance Bill.

THE position of the medical profession under the National Insurance Bill, now entering upon the report stage, remains an exceedingly anxious one. We publish elsewhere in this issue of THE LANCET accounts of important meetings of medical men held in Scotland and Ireland, as well as a *résumé* of the proceedings at the special meeting of Representatives of the British Medical Association which took place on Thursday and Friday of last week. From the evidence fully supplied by the debates and resulting resolutions at these meetings it stands out clearly that the profession as a whole mistrust the measure deeply, and at this late hour in the proceedings the fact can but strike us all as ominous. The meeting of Representatives of the British Medical Association, not without real opposition to some of the views eventually adopted, registered resolutions implying a decision to work under the Bill if the six cardinal points were granted. The view of the Representatives has been embodied in a memorandum and forwarded to the Chancellor of the Exchequer, who, in response to further representations of the Association, has put down certain amendments, of which a summary will be found in our Parliamentary report. In Scotland the temper of professional opinion is even more adverse to the measure, while Ireland desires, on the whole, to be brought into line with England, Scotland, and Wales by an extension of the medical benefits under the Bill to that country upon the same lines as those demanded by the profession elsewhere. We publish this week no individual opinions upon the Bill, for although some of our numerous correspondents have brought forward interesting points of criticism, these are for the most part dealt with in favourable or unfavourable sense by the resolutions of large meetings. That is to say, that in these many but separate communications the same message of deep anxiety can be traced. The solidarity of the medical profession remains thus what it has always been—viz., a general distrust of a scheme, however nobly intended and however useful to the material interests of medicine in some directions—which proposes to revolutionise the whole professional life of a large number of medical men without any proper time having been given to the comprehension of the details of that life, of its real hardships, its fine compensations, or its great ideals.

At the session of the General Medical Council which was opened on Tuesday last, Sir DONALD MACALISTER delivered a Presidential address which will be read in our columns with anxious attention. The General Medical Council, as is well known, without being committed to any final expression of opinion on the National Insurance Bill as a piece of legislation, has viewed with deep apprehension the possible effect upon medical education of a radical disturbance of the conditions of practice which may lead to a profound alteration of medical life. The fear of the General Medical Council is that if the conditions of practice under the measure should prove highly distasteful to a large number of practitioners, the result will be an increase in that shrinkage of candidates for entrance to the medical profession which has already given the Council anxious thought. The Council, especially during the last decade, has worked with unremitting zeal at the arduous task of raising the medical education of this country to a high level, and of keeping it at that level. The difficulties arising out of an overcrowded educational curriculum, which to some extent are directly related to the maintenance of a high standard, are now being boldly faced, but the more the many questions involved are closely looked into, the more clear it becomes that modern preparation for the life of a medical practitioner must be a very strenuous matter for both teacher and taught. A long time and much money will have to be spent by the student of the future in the acquisition of a familiarity with the general groundwork of our inclusive science sufficiently intimate to warrant the General Medical Council in placing him upon the statutory roll of the profession. The young man on learning this, and on learning also that the conditions under which he will be expected to pursue his avocation do not correspond with so strict and expensive a guarding of the portal, will not enter the ranks of medicine. We ask, then, what course is to be pursued? To suggest in these days that the body entrusted with the management of the professional education of our medical students should deliberately lower its due scientific standard is unthinkable. To carry on the business of insuring the health of the community with an inadequate supply of practitioners is equally hard to imagine. The Insurance Commissioners may find that they have here a veritable problem.

The names of the Insurance Commissioners will probably not serve to allay the legitimate misgivings of the medical profession. If the profession decides to attempt to carry out the duties that are proposed to be laid upon it, it will be of the utmost importance that the Commissioners should form a very strong, experienced, and sympathetic body. The medical men will require protection all along the line, for while they have apparently been invited to join the scheme first and adjust their quarrel with it later, their representation on the local authoritative bodies, where the discussions are sure to occur, is extremely small, though we understand that the Chancellor of the Exchequer proposes to remedy this default in some degree. The Government, finance, trade, and labour, and the interests of approved societies are represented by Mr. J. D. STUART SIM, Mr. JOHN BRADBURY, Mr. D. J. SHACKLETON, Miss MONA WILSON, and Mr. LISTER STEAD. The chairman, Sir ROBERT MORANT, by far the strongest Commissioner, may be implicitly trusted to see fair-play and be fairly assumed to be conversant with, and sympathetic towards, professional ideals. The name of the medical Commissioner has not been announced as we go to press. A heavy responsibility will devolve upon him, for the suggested further amendments to the Bill cannot, alas, be said to remove all professional opposition.

## The Anatomy of Spinal Puncture.

ALTHOUGH the technique of spinal puncture for introducing analgesic drugs has been carefully studied in this country the literature dealing with the anatomy of the parts involved affords few recent additions to our knowledge. The importance of an exact knowledge of the anatomy of the subarachnoid space and of the precise limits of the conus medullaris can hardly be over-rated. Early in the last century KEY and RETZIUS made some careful studies with regard to the former, and QUINCKE, GERSTENBERG, and HEIN, as well as PROPPING, have extended our knowledge. MAJENDIE'S experimental work upon the movements of the cerebro-spinal fluid is too well known to need comment, but when we find that much discrepancy of opinion persists both as to the site of election for puncture as well as to the causation of dangers immediate and post-operative, we are compelled to believe that the subject is still imperfectly understood. Dr. WILLIAM C. LUSK (in the *Annals of Surgery* for October) has published a statement of the results at which he has arrived after a careful series of dissections of the whole region involved. He has located the exact position at which the spinal cord terminates, and describes minutely the arrangement of the arachnoid membrane, the position of nerves and veins, as well as the conus itself, as regards their possible injury by the puncturing needle. The dissections of the arachnoid membrane convince him that any puncture undertaken between the conus and the cervical region must be attended with the greatest risk of penetrating the cord. In many dissections there were adhesions of the arachnoid membrane to the cord throughout more or less of its length, and DR. LUSK concludes from this that "if cerebro-spinal fluid can be constantly drawn as a result of mesial puncture at or above the level of the conus, in many instances the substance of the cord must be traversed by the needle and the fluid taken from the anterior portion of the subarachnoid space." Puncture in the dorso-lumbar interspace in a certain proportion of cases results in damage to the cord, as some dissections revealed the fact that the arachnoid is not infrequently adherent to the posterior surface of the conus or cord.

REHN has shown experimentally that injury when associated with injection of such drugs as stovaine or tropacocaine leads to immediate death with medullary symptoms. The cases of death quoted by Dr. LUSK are of peculiar interest in this connexion, and deaths otherwise inexplicable become clear in their causation if considered in the light of his work. Puncture below the level of the conus involves an accurate acquaintance with the disposition of the nerve roots of the cauda equina. Although, as the dissections show, the distribution of the nerve roots in the arachnoid sac varies, yet their arrangement in relation to one another appears fairly uniform. It is pointed out that while most of the nerve roots fall away to the sides, the lowest sacral nerve roots occupy a mesial position, and so are rendered more liable to trauma. The not infrequent paralysis of the bladder and sphincters consecutive to lumbar puncture finds an explanation in this fact. Dr. LUSK deals carefully with the question of the sacral leverage, so important when the position of the patient at the time of puncture is considered, since in forward tilting of the pelvis, which exists in extreme lumbar flexion, the mesially placed sacral nerves will become taut and present posteriorly. Hence the pelvis must be prevented from any forward tilt, as the needle impinging upon a taut nerve root will impale it, while it will push a slack tissue aside without injury to it. The characters and arrangement of the cauda equina in these dissections are grouped into five varieties, and it is shown that even an escape of the cerebro-spinal fluid after puncture cannot in all cases be accepted as a proof that the point of the needle is not engaged in some nerve structure. The site of maximum safety for performing the lumbar puncture seems from the facts advanced to be the interval between the fourth and fifth lumbar vertebræ made mesially, while the lumbo-sacral space, we are told, is probably equally safe, but only second in order of desirability. Dr. LUSK elaborates the rules for the technique of the puncture, basing his conclusions upon his anatomical findings. He believes that a blunted needle is safer than a sharp one, and in most cases entrance a little to the side of the middle line avoids the tougher superficial structures and allows greater precision of touch than in the case of the central puncture. There can be little doubt that the arguments adduced and the admirable reproductions of photographs of the dissections will enable the workers in this field of surgery to understand with greater clearness the etiology of many of the dangerous and painful sequelæ which have been recorded as following the lumbar puncture. With this increased accuracy of their pathology it is not too much to expect that the present somewhat serious list of deaths and post-operative troubles may become materially curtailed.

## The Cancer Cell.

THE problem of the origin of cancer has been attacked from time to time by numberless observers, and the solutions which have been put forward have been many. The manifestations of cancer are striking. From a small, hardly palpable beginning arises a mass of tissue which at last may assume such a size as to form no small proportion of the whole body in which it has arisen. For a while it may do little damage, but sooner or later, in most cases at least, there comes a time when by its mere bulk and its interference with the activity of some vital organ it makes clear its harmful influence, and at last, after months or years, it leads to the death of the body in which it has dwelt. The latest of the many attempts at the solution of the problem was made last month at the Royal College of Surgeons of England by Sir HENRY BUTLIN in two lectures, the latter of which we publish in the present issue of THE LANCET. We are sure that our readers will peruse these communications with the greatest interest, as the contribution to our prime surgical difficulty of one who has shown himself alike a profound thinker and a practical man.

The main phenomena of cancer are beyond dispute, but these phenomena are many as well as striking—their multiplicity is indicated by what we have said above—and therefore it is by no means easy to suggest a theory which will

explain them all. The theory which attributes the appearance of a malignant growth to the presence of a remnant of embryonic tissue was ingenious, but even if it served to explain somewhat the origin of the tumour it was incapable of giving a satisfactory explanation of the appearance of metastases. The idea that an external injury was responsible failed utterly in view of the fact that the vast majorities of injuries are not followed by any such tumour, though there can be little doubt, from the constant association of certain special injuries with malignant disease, that it is possible for a local injury to exert some predisposing influence. Every theory fails somewhere in the proof, and it may be truly said that at the present time no fully satisfactory explanation of the manifestations of cancer has been given. In the Bradshaw lecture at the Royal College of Surgeons of England delivered in November, 1905, Sir HENRY BUTLIN first broached his theory that the cancer cell is an independent organism, like many a protozoon; that it lives a life which is wholly independent and proper to itself, and that it lives in the body of the animal affected with the cancer, deriving its nourishment from its host and yet doing nothing to repay the host for the sustenance of which it robs him. In his recent lectures he has expanded the same idea as a result of the thought which he has devoted to the matter in the intervening period, and comes to the conclusion that the cancer cell is not merely like a parasite, but is a parasite, which has been formed from the very tissues of its host. In appearance the cancer cell remains so like the cells in which it first appears that there can be no doubt that it is indeed derived from a cell of the normal tissues. Yet how different are its functions now. At one time its sole aim was to serve the host of which it was a part, and for that it was ready to undergo the changes which are normal to such a living cell: but now it has suffered a subtle change; it is still in the likeness of a normal cell, yet it has ceased to take any care for the body, of which it had been long a part; its only aim is to grow and to reproduce itself, and it carries out these objects at the expense of the body to which it belonged. Sir HENRY BUTLIN would regard the cancer cell as an independent animal which is parasitic, and in every way manifests its parasitism, and he has called it the "unicellula cancri," being inclined to place it among the protozoa. No such brief summary will suffice to explain the author's views, and we urge our readers to follow the theory expounded in the luminous phrases and with the happy illustrations which characterise all that Sir HENRY BUTLIN writes. In the face of the exposition of that theory by one so highly gifted and so justified by a lifetime of experience, we must suspend our judgment if we do not feel ready to agree, while acknowledging the skill which has been employed to explain the mysteries.

That a cell of the body other than a cell derived from the organs of generation can take upon itself to live a life independent of the rest of the body, in it but not of it, is hard to believe, and that this should happen from such a cause as an injury or irritation cannot but surprise us still more. But is such an independent existence of a somatic cell incredible? An excitant might have the power to overcome the natural activities of a cell, to enfranchise it from the bondage which all somatic cells owe to their body. We cannot deny the possibility of such a change, though we may feel unable to suggest any method by which it could be brought about. Some, indeed, of the holders of the parasitic theory believe that when the parasite has entered into the cell it lives in the cell and stimulates it to inordinate reproductive activity, that it multiplies within the cell and divides with it, and they consider that this evil influence exerted by the parasite on the cell into which it has entered will suffice to explain the breach of allegiance which certainly takes place. In cancer so marked is this lack of control that many are inclined to hold that it is due to a cutting off of the influence of the nervous system, although such an explanation is rendered very unsatisfactory while we know of innumerable cases in which there has been an absolute loss of control of the nervous system and yet no malignant growth has appeared. That loss of resisting power takes place in some way is clear, while during the last few years evidence has been accumulating that the body can offer successful resistance against cancer. For that cases of cancer may rarely, very rarely indeed, recover spontaneously cannot now be doubted. But while we now know something of the mechanism with which the attacks of the disease-causing germs are repulsed by the opsonins, the phagocytes, and the many other influences which exist for the protection of the body, as yet we know nothing as to the efforts by which the body endeavours to withstand the attacks of malignant disease. But we welcome all evidence that they exist, for with the advance of our knowledge we should be able to strengthen these protective influences and enhance the resistance of the body.

# Annotations.

"Ne quid nimis."

## THE ELEVENTH REPORT OF THE SLEEPING SICKNESS COMMISSION.

NOT only those who have concern with sleeping sickness, but also those who have the progress and economic development of our Central African possessions at heart, will read with deep interest the recently published Eleventh Report of the Sleeping Sickness Commission[1] which was sent out to Uganda in 1908 under the direction of the Royal Society, and at the suggestion of the late Marquis of Ripon, then Secretary of State for the Colonies, to continue the investigations begun in 1903. This Commission, the third that has been despatched to Africa, had for its leader Colonel Sir David Bruce, C.B., F.R.S., of the Army Medical Staff, the other members being Captain A. E. Hamerton, D.S.O., and Captain H. R. Bateman, R.A.M.C., along with Captain F. P. Mackie, I.M.S. Lady Bruce also accompanied the Commission, and besides rendering other valuable assistance contributed a number of very beautiful coloured and other drawings of the various trypanosomes dealt with in the text of the report. The Commission left England in September, 1908, and the volume now issued deals with its work from that time up to end of July, 1910. Some of the papers included in the report have already been published in the Proceedings of the Royal Society, and upon certain of these we have already commented in the columns

[1] Reports of the Sleeping Sickness Commission of the Royal Society No. xi., London, 1911. Published by H.M. Stationery Office.

of THE LANCET. In an interesting series of "Further Researches on the Development of Trypanosoma Gambiense in Glossina Palpalis" the conclusion is arrived at that in the course of the development of this trypanosome the proboscis of the fly does not become involved, though this occurs with other species such as T. vivax, which also is found in G. palpalis. Experiments proved that after an infective feed the trypanosomes of sleeping sickness disappear from the alimentary canal of the great majority of the glossinæ, but in a small percentage of the flies this initial disappearance is followed by a renewed development in about 28 days, and the tsetse flies in which this renewed or late infectivity occurs can remain infective for at least 96 days, and quite possibly for the remainder of their existence. An invasion of the salivary glands takes place at the same time that the renewed infectivity appears, and it is important to observe that, in the opinion of the Commission, without this invasion of the salivary glands the bites of the flies cannot prove infective. The type of the trypanosomes found in the salivary glands of the glossinæ which become infective is similar to the short, stumpy forms found in the blood of vertebrates. It is believed that this reversion to the blood-type is an essential feature of the infective process. Mechanical transmission of the infection by the fly immediately after an infective feed plays a much smaller part, if any, than has hitherto been supposed. One of the most difficult problems which confronted the Commission was to account for the continuance of the infection in the flies caught on the depopulated shores of the Victoria Nyanza, the whole of the native inhabitants having been removed two or more years previously. It was strongly suspected that some animals were acting as reservoirs of the virus. It was ultimately demonstrated that cattle may in nature carry T. gambiense in their blood, and that certain kinds of antelope are at least potential carriers of the sleeping-sickness parasite, though no evidence was obtained that this occurs in nature. Such animals as the Uganda pig, the crocodile, and Uganda fowls were subjected to experiment, but there was no proof that any of them acted as the host of T. gambiense. Other mammals, birds, and reptiles found on the lake-shore and its vicinity were also examined, and though in the blood of some of them trypanosomes of various sorts were found, there was nothing to show that any of them, excepting a single monkey, harboured the particular parasite of sleeping sickness. The question as to whether there was an ultra-microscopical phase in the development of T. gambiense was also inquired into, but the Commissioners came to the conclusion that it was unlikely that there was any such phase of the trypanosome during the period of its development in the body of the tsetse fly. It was also shown that there could be no hereditary transmission of T. gambiense in G. palpalis. The Commission investigated as far as was possible the diseases of domestic animals in Uganda, and attempts were made to discover the insect carriers of the infection of some of these maladies, and to investigate diseases caused by piroplasms, and also native ailments other than sleeping sickness. In this connexion it is worthy of mention that it was demonstrated that the illness prevalent among the natives in some places, and known locally as "muhinyo," was no other than Mediterranean fever, and that it was spread in Uganda as elsewhere through the agency of infected goat's milk. The distribution of biting flies and ticks, as also the incidence of cattle diseases in Uganda, were mapped out as far as was practicable. This valuable report gives the interesting details of a vast number of experiments carried out at the headquarters of the Commission at Mpumu, about six miles from the Victoria Nyanza. But notwithstanding all that has been done there remain a number of problems in connexion with sleeping sickness still unsolved. With a view of completing the work the Commission has quite recently returned again to Africa. Some changes in its membership have occurred; the places of Captain Bateman and Captain Mackie have been filled by Professor R. Newstead, of the Liverpool School of Tropical Medicine, a recognised authority on medical entomology, and Captain F. Harvey, R.A.M.C. We understand that Lady Bruce once more accompanies the Commission, which is proceeding in the first instance to Nyassaland in order to ascertain if the species of the tsetse fly and the particular trypanosome found there in the recently reported sleeping sickness cases are the same as those which are responsible for causing the disease in Uganda. The question of wild game as possible reservoirs of the virus will also be further investigated.

## RECENT RESULTS IN ANTI-PLAGUE INOCULATION.

ALTHOUGH the efficacy of inoculation as a plague preventive is thoroughly recognised and acknowledged by those who have had personal experience, there still exists in some quarters a perhaps not unnatural reluctance to accept this measure as, on the whole, the most effective and essential in presence of an outbreak. It is not superfluous therefore to bring together well-authenticated statistics of the relative incidence of the disease on groups of inoculated and uninoculated persons living under identical conditions. This has been done by Colonel W. B. Bannerman, I.M.S., in his report for 1910 on the working of the Bombay Bacteriological Laboratory, an institution which supplies anti-plague vaccine for the whole of India. During the year the output of this vaccine was 625,690 doses, a substantial increase as compared with 1909, showing that confidence in its use is slowly but steadily increasing. The largest supplies were furnished in the Punjab, Madras, the United Provinces, and the Native States. An important item of evidence as to its prophylactic power is the fact that the whole of the laboratory staff, numbering 116, have remained absolutely immune, though in constant and daily contact with plague-infected rats and fleas. Colonel Bannerman suggests that the unpopularity of inoculation amongst the native classes generally may be due to one, or both, of two verbal misunderstandings: one of these arises from the fact that, in the vernacular, the verb "to inoculate" is translated as "to inject plague" or "to inject plague juice"; the other is the use of the word "sterile" as applied to the prophylactic fluid, meaning, of course, that it contains no living organisms, but understood by the native to imply that its injection will cause sterility or impotence. It is perhaps unfortunate that these terms have become so current in popular phraseology, and the misconceptions as to their meaning on the part of the quite uneducated and ignorant masses of the population are not to be wondered at. Explanation of the real nature of the remedy and of the benefits that may be expected from its use, together with accounts of the success it has already had, that is, education of the people by competent instructors, and in an interesting and attractive manner, as by lectures and lantern demonstrations, should be carried out in all parts of the country. Moreover, this should be done, as Colonel Bannerman states with emphasis, with the cöoperation and hearty support of the chief officers of the civil government, that is, the Collectors of Districts: "The success, or failure, of inoculation in a district depends on personal influence, and the officials of most influence are the Collector and the District Surgeon." We heartily endorse Colonel Bannerman's recommendation. The active personal support of the local governing authority, the senior civil

officer of the district or station, is required. When the British *Raj*, as represented by the Commissioner or Collector, shows that it really wants something done, and intends to have it done, then the leaders of native opinion are likely to get it done. The personal influence and enthusiasm of the civil surgeon are also important factors. Fifteen instances are furnished to prove the efficacy of inoculation, as carried out during the past year. It is stated that they have been selected from many examples received from all parts of India in response to a request for information from the authorities to whom supplies of vaccine had been sent. It would perhaps have been more satisfactory if *all* the statistics could have been collected, instead of a selection; but we imagine that many of them were not sufficiently precise or accurate to be capable of furnishing a trustworthy general induction.

| | Population. | | Percentage attacks. | |
|---|---|---|---|---|
| | Inoculated. | Not inoculated. | Inoculated. | Not inoculated. |
| Dharampur ... ... | 1,027 | 2,500 | 2·30 | 8·00 |
| Kolhapur ... ... ... | 4,118 | 50,255 | 0·12 | 2·25 |
| Sadra ... ... ... ... | 689 | 600 | 0·014 | 4·16 |
| Gujranwala ... ... | 2,595 | 19,628 | 1·58 | 5·16 |
| Amritsar ... ... ... | 5,846 | 44,243 | 1·53 | 5·60 |
| Fyzabad ... ... ... | 711 | 64,371 | 0·28 | 1·90 |
| Neemuch ... ... ... | 3,350 | 6,000 | 1·16 | 6·36 |
| Do, Skinner's Horse | 1,177 | 9 | 0·93 | 100·00 |
| Jaipur ... ... ... | 856 | 131,235 | 0·23 | 3·70 |
| Nagpur ... ... ... | 3,708 | 105,587 | 1·19 | 7·37 |
| Yeotmal ... ... ... | 3,119 | 7,426 | 0·86 | 5·40 |
| Harihar ... ... ... | 2,138 | 1,783 | 4·30 | 15·80 |
| Palghat (Malabar)... | 10,794 | 33,383 | 0·02 | 0·50 |
| Calicut ... ... ... | 2,416 | 72,565 | *Nil.* | 0·03 |
| Palni ... ... ... ... | 13,825 | 3,343 | 0·64 | 5·30 |

A set of examples such as these, collected from a very wide area, and referring, taken altogether, to a considerable number of persons under very different conditions, clearly shows the large measure of protection afforded by inoculation. They also show that there is great variation in the attack rate in different populations—e.g., amongst uninoculated, at Calicut only 0·03 per cent., that is, 22 persons, all of whom died; at Harihar as many as 15·8 per cent., that is, 283 persons, of whom 203 died. Amongst inoculated, 0·02 per cent. at Palghat, that is, 2 persons, of whom 1 died; 4·30 per cent. at Harihar, that is, 92 persons, of whom 18 died. The advantage, however, is always very greatly in favour of the inoculated. The report also records some experiments as to the supposed spread of plague through the medium of wild ducks, which had been suggested as a possible explanation of an outbreak at an oasis in Seistan, 600 miles away from any known plague-infected area. It was found that the rat flea would not take to ducks, either wild or tame, thus disposing of this hypothesis.

## METHOD OF INTRODUCING A NEEDLE FOR INTRAVENOUS INJECTION.

INTRAVENOUS injection has now become a common, not to say a fashionable, form of medication, but the operation is sometimes difficult, and the fluid may be injected beside, instead of into, the vein. In the *Journal of the American Medical Association* of July 29th Dr. J. J. Watson has described an ingenious method by which he has seldom failed to enter the vein on the first attempt. If the vein is small or the patient is fat, a ligature is applied above the elbow. A medium-sized sewing-needle is passed through the skin and upper quadrant of the vein and anchors the vein to the skin. The artery forceps or needle-holder used to insert the needle is taken off and clamped on the point side of the needle about a quarter of an inch from the vein. The forceps is gently lifted with the left hand, thus elevating the upper wall of the vein with the skin. With the right hand the injection needle is introduced into the vein almost parallel with its axis. There will be no bleeding if a piece of sterile gauze is pressed over the vein and held there for half a minute as the needle is withdrawn. The three small punctures are covered with collodion. Dr. Watson states that the ease with which this procedure can be executed is surprising. The method may also be used for blood-letting.

## RECENT ANTHROPOLOGICAL WORK IN EGYPT AND NUBIA.

WE have from time to time made note of the ever-accumulating volume of literature which is being produced as the result of the labours of various workers in Egypt and Nubia. The Egyptian Government Survey of Nubia has given a great impetus to investigation, for the vast amount of material which it has yielded has furnished a basis for the researches of many specialists, and for many years to come it may well continue to do so. During the season of field work from 1910 to 1911 an interesting portion of the Nile Valley between Dakka and Korosko was examined, and the expedition finished its season's work by excavating Cemetery No. 151, which lay to the south of Wadi Sebua. The fact that 151 cemeteries of all periods have been examined gives some idea of the enormous collection of material, anthropological and archæological, that has been accumulated during the last three years. The human remains obtained in the last season's work have not yet been reported on, for no anthropologist accompanied the expedition in the field; but judging from Mr. C. M. Firth's account [1] of the burials and interred objects an extraordinary interest will be attached to the result of Professor Elliot Smith's examination of the skeletons. One thing that would seem to be apparent from Mr. Firth's report is that as the survey has pushed south along the Nile Valley it has passed beyond the limits of the early and middle Predynastic burials, none of which were met with above Dakka. On the other hand, the early Dynastic period is abundantly represented, and as its burials are traced southwards those indications that were noted in the work of the previous seasons become more clear, and a definite non-Egyptian or local Nubian culture is apparent. This purely Nubian culture in these most southern Dynastic burials manifests itself most clearly in the pottery, which is a finely elaborated development of the simple, yet beautiful, red glazed Predynastic ware. In Egypt proper this full development was never reached, for the use of alabaster obtained such a vogue that the most brilliant evolution of the potter's art was arrested, and only found its full expression among these isolated southern people uninfluenced by the Egyptian fashion for stone ware. It is obvious from this seventh bulletin of the survey that the objects of culture have given a very definite shape to the ideas of the archæologist concerning the peopling of this tract of country, and we may well expect that when the work of the anthropologist is done a very great addition will be made to our knowledge of this early page of the human story. Another recent publication is that of Dr. Marc Armand Ruffer dealing with the representations of pathological types as they are displayed in the wall paintings, carvings, and statuettes of Egyptian workmanship.[2] The fidelity to detail shown by the ancient Egyptian artist

[1] The Archæological Survey of Nubia. Bulletin No. 7. Cairo, 1911.
[2] On Dwarfs and Other Deformed Persons in Ancient Egypt, Bulletin de la Société Archéologique d'Alexandrie, No. 13, 1911.

is well known, and Dr. Ruffer is probably correct in regarding such representations—at any rate, those executed before the advent of Græco-Roman influences—as accurately depicting the distorted proportions of some actual human being. The human desire to indulge in grotesques or a certain inferiority of draughtsmanship on the part of the artist must always be reckoned with, but these elements would seem to be excluded in all the examples chosen to illustrate this work. It is known that the notables of ancient Egypt possessed that curious desire—manifested throughout all history—to have attached to their retinues examples of those human unfortunates who happen to be conspicuously dwarfed or curiously deformed. The dwarf, the hunchback, and the court jester are near relations; the nanus, the pumilus, the morio, and even our own Punch, are all of their family; and what would seem almost more curious than the love of the wealthy to possess them is the willingness of the artist to depict their misshapen forms. Raphael, Titian, Mantegna, Veronese, Valasquez, Carpaccio, and others have lent their art to the portraiture of the dwarf and the hunchback; and some 5000 years ago the artists of ancient Egypt were attracted by the same theme. Dr. Ruffer has classified the dwarfs and deformities represented in the art of these old workers, and has done good service in showing the error of the oft-repeated assertion that these little people were normal members of one of the dwarf tribes of Africa. Achondroplasia, Pott's disease, and talipes are easily diagnosed from many accurate representations dating back at least 4000 years; rickets appears to be manifested in the subjects of some wall drawings, and other malformations, though well depicted, are of somewhat uncertain origin. It is interesting to note that the examination of the actual remains of the people has yielded results that very well accord with the author's conclusions. The Queen of Punt, that mysterious woman whose queer distorted figure has puzzled so many people, still remains a pathological as well as an ethnological riddle, for Dr. Ruffer, though he has determined that she had a daughter of the same type, has not succeeded in diagnosing her condition.

## THE TREATMENT OF THE VACCINATION SITE WITH PICRIC ACID SOLUTION.

ANY improvement in the method of treating vaccination scratches and the consequent inflammatory processes will be heartily welcomed by those who have had much experience of vaccination. Although the numbers of untoward results are nowadays comparatively small, the acute inflammatory conditions that sometimes supervene are always annoying and often extremely painful to the patient and worrying to the medical man. In THE LANCET of Nov. 18th (p. 1397) Professor J. F. Schamberg and Dr. J. A. Kolmer, of the Philadelphia Hospital for Contagious Diseases, show that by using a 4 per cent. alcoholic solution of picric acid painted upon the vaccinated area 48 hours after the insertion of the lymph the degree of local inflammatory reaction is lessened, as is also the amount of constitutional disturbance. These observers believe that the improved conditions are the result of the germicidal action of this solution, as they find that the micro-organisms in the skin, or a large proportion of them, are killed off when the solution is applied. There seems, however, to be an additional advantage in the fact that the epithelial cells are hardened or toughened by the action of the picric acid. A kind of natural aseptic dressing is thus formed and kept in perfect condition without any bandaging or constriction of any kind, so that there is no interference with either the lymph- or blood-vascular circulations. Professor Schamberg and Dr. Kolmer are very careful to put this method forward simply as tentative and preliminary, and suggest that others interested in vaccination should repeat their experiments and see whether they obtain equally good results.

## A PROTEST AGAINST THE INDISCRIMINATE USE OF THE ORGANIC COMPOUNDS OF SILVER IN OPHTHALMIC PRACTICE.

IN the *Johns Hopkins Hospital Bulletin* for November Professor Samuel Theobald has protested against the indiscriminate use of the organic compounds of silver in ophthalmic practice. Whether as the result of their greater penetrative power or of the freedom with which they are used, protargol and argyrol are responsible, he thinks, for many cases of conjunctival argyria. Before these compounds were introduced argyria was practically never seen except in old cases of trachoma. It has now become a common practice to use the organic compounds of silver in both acute and chronic catarrhal conjunctivitis. This Professor Theobald regards as unnecessary and indefensible, as a collyrium containing half a grain of sulphate of zinc and 10 grains of boric acid to the ounce is cleanly and is more surely and promptly efficacious than the silver compounds.

## THE PREVENTION OF BERI-BERI AND MALARIA.

Dr. Max Moszkowski, of Berlin, who undertook an expedition, which lasted eight months, from May, 1910, to January, 1911, to explore the Mamberamo river in Dutch New Guinea, was very successful in preventing both malaria and beri-beri, and gave to the Berlin Medical Society an account of his methods which appears in the *Archiv für Schiffs- und Tropen-Hygiene* for October. The Mamberamo river had, he tells us, a most unenviable reputation. Every previous expedition had been ruined by malaria or beri-beri, so much so that the local steamboat company had forbidden its captains to enter the river at all. Dr. Moszkowski was waiting at Singapore, expecting to join a Dutch military expedition to the river, some hundreds strong, when he got a telegram directing him to go there, but telling him that the expedition had had to be given up on account of a great outbreak of illness. On the day it officially ended there were 42 per cent. on the sick list, and all three Europeans had been attacked by beri-beri, from which several natives died. He had to start quickly, and what preparations should he make? He knew of Braddon's work on cured rice, but cured rice was expensive, and besides it does not keep well. He read Schaumann's long report on phosphorus starvation and beri-beri, and realised that if he fed his men on the rice of commerce, polished rice, they would in about three months develop beri-beri unless he gave the men "polishings" too. But polishings could not be got in the time, and besides the natives do not like them. He knew that Hulshoff Pol, of Buitenzorg, recommended the addition of katjang-idjoe beans (Phaseolus radiatus), but he dared not trust to these alone, as the just-abandoned expedition had been supplied with them, and had yet been decimated by beri-beri. In this difficulty he bethought himself that beri-beri was really a disease of civilisation, not attacking the untutored native who grows, and husks, his rice for himself, but appearing only when coolies are gathered together in numbers on plantations, and get their rice brought to them from mills. He had himself lived on rice in the back country of Sumatra without getting beri-beri, so he decided to take with him paddy, unhusked rice, and carry a rice mortar or two, and have the rice husked daily in the native way. This trebled his baggage and greatly increased the work of the expedition; indeed, it was a method only possible for a small party like his (two Europeans, three Papuans, and five Malays). They had very arduous work; their boats were capsized, they suffered

great privations, yet came through both dry and wet seasons without a single case of beri-beri—a great credit to his forethought and judgment. He tells us that the katjang-idjoe bean has a most unpleasant flavour, and that the natives will always avoid eating it if they can. When he had it for them he issued ½ lb. daily to each man, and himself saw that they ate it. It takes long to cook, so he boiled it for 20 minutes before he put the rice (1½ lb. per man) into the pot with it, boiled the whole down to a sort of porridge, and served this out. Thus treated, the unpleasant flavour disappears, and not only are the rice and bean eaten, but the extractives and salts are not lost, as happens when the beans are boiled and the water thrown away. Even polished rice may be safely used if cooked in this way, we are told. Dr. Moszkowski had a further triumph, for he gave each man 7½ gr. of quinine every fifth and sixth day, and though he says they at times met veritable swarms of anopheles he had hardly a case of malarial infection, and he escaped altogether himself. The history of this expedition is most satisfactory and written with considerable literary skill, and the author is to be congratulated on the success he attained, in spite of all his hardships, in overcoming the two great sanitary dangers of that region, beri-beri and malaria. But in future we are to expect that, thanks to the work of Mr. E. A. Cooper and Dr. Casimir Funk (THE LANCET, Nov. 4th, p. 1266), the leader of an expedition will be able to take all the special substance required to keep beri-beri away from his men in a one-ounce bottle in his pocket. Of such are the triumphs of medicine.

## THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

AS was announced in THE LANCET of May 27th, the second Biennial Congress of this Association will be held at Hong-Kong from Jan. 20th to 27th, 1912, under the presidency of Dr. J. Mitford Atkinson. The papers will be classified so as to give, if possible, a day to each of the following groups: I. Protozoology, Helminthology. II. Cholera, Plague, Leprosy, Tuberculosis. III. Tropical Fevers, including Malaria, Beri-beri, Dysentery. IV. Surgery, Obstetrics, Infantile Diseases. V. Climate, Hygiene, Sanitation. Medical men in the Far East willing to introduce subjects for discussion should communicate at once with the secretary, Dr. Francis Clark, Hong-Kong Papers may be read in English, French, or German, but a brief abstract in English should be sent in. Papers have already been promised by Dr. J. Mitford Atkinson (Hong-Kong), presidential address on the Progress of Tropical Medicine during the Past 25 Years; Dr. J. C. Dalmahoy Allen (Hong-Kong), on Blood Pressure; Major Weston P. Chamberlain (U.S. Army), on Prevention of Beri-beri among Philippine (Native) Scouts by the Use of Under-milled Rice; and Captain E. B. Vedder (U.S. Army) on (1) the Substance in Rice Polishings which Prevents Polyneuritis Gallinarum and Beri-beri; (2) an Experimental Study of the Action of Ipecacuanha on Amœbæ; Dr. C. Noel Davis (Shanghai), Dr. H. Fraser (Kuala Lumpor), and Dr. Victor G. Heiser (Philippine Islands), papers on Beri-beri; Dr. Richard P. Strong (Philippine Islands), on (1) Immunisation against Pneumonic Plague; and (2) the Etiology of Beri-beri; Dr. Lawrence G. Fink (Burma), on Blackwater Fever in Burma; Dr. Paul C. Freer (Philippine Islands), on Results of the Past Two Years' Work on the Study of Tropical Sunlight; Staff-Surgeon Dr. Fürth (Kiautschou) on Neuere Untersuchungen über Flecktyphus; Dr. George A. Finlayson (Straits Settlement), on Malaria as a Factor in the Etiology of Biliary Calculi; Dr. G. Montagu Harston (Hong-Kong), on (1) The Care of Children in the Tropics, and (2) The Care of the Eyesight in the Tropics; Dr. C. Montague Heanley (Hong-Kong), on the Laboratory Diagnosis of Syphilis; Dr. Gregory P. Jordan (Hong-Kong), on Carbon Dioxide Snow, its Use in Private Practice in the Tropics; Dr. K. Justi (Hong-Kong), on the Diagnosis of Malarial Fever in the Absence of the Parasites from the Peripheral Blood; Dr. O. Müller (Hong-Kong) on the Surgical Treatment of Dysentery; Sir Allan Perry, M.D. (Ceylon), on Indian Native Coolie Immigration; Dr. J. M. Swan (Canton), on Some Rare Conditions which have been met with in the Treatment of Vesical Calculi in South China; Dr. Gordon Thompson (Pakhoi), on Surgical Work in South China; Fleet Surgeon Dr. Uthemann (Kiautschou) on, (1) Stadtanlage und Sanitäre Einrichtungen in Tsingtau; (2) Die Notwendigkeit der Quarantänebestimmungen an den Küstenplätzen Ostasiens nach Möglichkeit in Übereinstimmung zu bringen; Dr. G. Duncan Whyte (Swatow) on Tuberculosis in South China; Mr. J. P. A. Wilson (Johore), Professor Cheng Hao (Canton Army Medical School), Major S. P. James, I.M.S., and Dr. J. A. F. de Moraes Palha (Macau) on subjects not yet announced. The Governor, Sir Frederick J. D. Lugard, will open the congress with an address of welcome on Jan. 20th. A social programme is being arranged. The subscription is 10*s.* 6*d.* (8$ Hong-Kong currency).

## VALVULAR LESIONS OF THE HEART PRODUCED BY EXTERNAL INJURIES.[1]

IN 1905 Dr. Ranelletti had an opportunity of examining a carpenter whose health had been completely broken in consequence of an accident in which, while he lay on the ground, a wooden door fell on him from a height of about six feet. The door struck him in the præcordial region, the immediate effects being severe retrosternal pain, partial loss of consciousness, and agonising oppression in the chest. Dr. Ranelletti, at his first visit to the patient, about six weeks after the accident, found evidence of insufficiency of the aortic valves, together with incipient hypertrophy of the heart; another examination made four years afterwards showed that the aortic insufficiency had been followed by aortic stenosis. Recognising the great interest of such a condition, not only from the professional point of view but also in connexion with the compensation of injured workmen, he has now collected in book form the clinical and pathological details of 100 recorded cases more or less analogous to the above, the resulting lesions being either immediate rupture of the valves or else the production of some form of endocarditis. The chapters on etiology, diagnosis, pathological anatomy, and medico-legal considerations are well deserving of perusal, though, or because, they suggest a vista of legal procedure.

## THE SECOND INTERNATIONAL CONGRESS OF ENTOMOLOGY.

THE intimate connexion between entomology and disease has been realised only of recent years in a scientific manner. Though vaguely presaged by much older philosophy the doctrine of insects as disease-carriers is of yesterday in practical therapeutics. Yet in a brief time much valuable work has been done in tracing the relationship of the mosquito to malaria and yellow fever, of the tsetse fly to trypanosomiasis, of the cattle tick to Texas fever, for example, and it is easy to see that medical successes will not stop at these points. The appointment by Government in 1909 of an Entomological Research Committee to make further investigations into the relation existing between insects and disease in tropical Africa removed from Great Britain the reproach of

[1] Le Lesioni valvolari del Cuore di Origine traumatica. By Dr. A. Ranelletti. Rome: Armando Di Fabro. Pp. 181, with three illustrations. Price 3 lire.

lagging behind in this great field of scientific investigation. Even prior to that the Sleeping Sickness Bureau and the Wellcome Research Laboratory at Khartoum had made great use of the services of the special experts attached thereto, while we may particularly mention the monograph of Mr. F. V. Theobald on Mosquitoes, and the valuable work of Mr. E. E. Austen on "African Blood-sucking Flies." The coöperation of the entomologist with the medical scientist has before it a wide field for investigation. We have recently received from the general secretary of the International Congress of Entomology, Mr. Malcolm Burr, D.Sc., an intimation that the Second International Congress of Entomology will be held at Oxford from August 5th to 10th, 1912, of which further particulars will shortly be announced. The executive committee invites early provisional notice of intention to join the Congress, that provision for the necessary accommodation may be made, especially in regard to finding lodgings in the town or rooms in one or more of the Colleges (the last for men only) at a moderate charge. Communications and inquiries should be addressed to the General Secretary of the Executive Committee, care of the Entomological Society of London, 11, Chandos-street, Cavendish-square, London, W. The proceedings of the first Congress are nearly ready, and will doubtless provide excellent reading. The subject matter of this Congress must necessarily prove interesting to the medical profession.

## THE INCREASE OF NERVOUS INSTABILITY.[1]

THERE can be little doubt that one accompaniment of any rise in the general level of culture and civilisation in a race is an increase in the number of individuals who either suffer from nervous and mental disease or are liable so to suffer. No one who is at all concerned for the welfare of mankind can view such facts with equanimity. Recent statistics would go to show that out of every two to three hundred inhabitants of Germany one is mentally affected, and in other countries also the ratio of insane to healthy seems to be on the increase. The matter is one which concerns not merely the specialist, but also the general practitioner, for the latter has opportunities often denied to the former on coming in contact with neuropathic and psychopathic patients before their disease is fully established; further, from his knowledge of families and familial tendencies he is often in a position to advise and to direct at an early period in a child's life-history. Dr. Zingerle has written an interesting little book in which he pleads reasonably and forcibly for a better understanding on the part of the general practitioner of his opportunities and responsibilities in the matter of prophylaxis. At almost every stage in the individual's life the practitioner, whether he be accoucheur, school physician, army doctor, or factory doctor, may be called on to advise and to treat patients who, if properly handled, can still be retained as useful members of society, and it is eminently desirable he should have a practical knowledge of modern psychiatrical principles of treatment and their application. Dr. Zingerle enters into the homely details of every-day cases, points out the problems that present themselves and the best way of dealing with them, and argues strongly that less would be heard nowadays of the degeneration of the race if more attention were paid to these matters. Both in the chapters on prophylaxis and in those devoted to a consideration of treatment when once mental symptoms are observed, the practitioner will find much that is suggestive and practicable, and he will admire the sound common-sense that pervades the book.

[1] Die Psychiatrischen Aufgaben des Praktischen Arztes. By Dr. H. Zingerle, Professor in the University of Graz. Jena: Gustav Fischer. 1911. Pp. 55. Price 1.50 marks.

## INTERNATIONAL OBSTETRICAL AND GYNÆCOLOGICAL CONGRESS.

THIS Congress will be held at Berlin on Sept. 10th–12th, 1912. A National Organisation Committee for Great Britain and Ireland has been formed for the purposes of the Congress by representatives from the Royal Society of Medicine (Obstetrical and Gynæcological Section), North of England Obstetrical and Gynæcological Society, Edinburgh Obstetrical Society, Glasgow Obstetrical and Gynæcological Society, and the Royal Academy of Medicine of Ireland. The Central Organisation Committee in Berlin has decided to have a formal discussion at the first session of the Congress on Sept. 10th, on "The Surgical Treatment of the Peritoneum." The duties of the National Organisation Committee of Great Britain and Ireland are (1) to nominate delegates to the Congress for the United Kingdom, the number of official delegates being expressly limited by the Central Organisation Committee to three; and (2) to select a "*rapporteur*" (not necessarily one of the three delegates), who will personally open the discussion on the "Surgical Treatment of the Peritoneum" as this country's representative, and give the views held here on the subject. At a meeting of the National Committee, held in London on Nov. 20th last, it was resolved to ask any Fellow or member of any of the above-named societies who are proposing to attend the Congress at Berlin, and who would be willing to serve as delegates, if nominated by the National Committee, to send in their names to one of the secretaries of the National Organisation Committee: Mr. J. H. Targett, 19, Upper Wimpole-street, London, W., or Dr. Walter Tate, 32, Queen Anne-street, London, W., on or before Dec. 11th, 1911.

A MEETING of the Section for the Study of Disease in Children of the Royal Society of Medicine will be held at 11, Chandos-street, W., on Friday, Dec. 15th, at 4 30 P.M., for a discussion on the Treatment of Tuberculous Joint Disease in Children. Mr. A. H. Tubby, in opening, will deal with the Relative Advantages of Operative Measures. Sir Anthony Bowlby will follow with the Results Obtainable without Operation and Dr. Butler Harris will deal with the Rôle of Vaccine Therapy. Fellows of the Society or Members of the Section desirous of taking part in the discussion are requested to communicate with Dr. T. R. Whipham (honorary secretary), 58, Park-street, W.

Sir Thomas Boor Crosby has intimated that he will preside over a meeting at the Mansion House in connexion with the London School of Tropical Medicine on Wednesday, Feb. 28th, 1912. He has also consented to preside at the annual meeting of the British Medical Benevolent Association to be held at the Mansion House on March 13th at 4 P.M. The new Lord Mayor of London has not been long in identifying himself with the medical work of the metropolis.

Sir Henry Butlin asks us to inform the Fellows and Members of the Royal College of Surgeons of England that he is very grateful to them for their kind message of sympathy.

Dr. William Collingridge, who has been medical officer of health of the City of London for the past ten years, has announced to the Corporation his desire to resign this post, as he is no longer physically equal to his duties.

THE Sultan of Turkey has presented to Dr. David Sandler a gold cigarette case with initial set in brilliants and rubies in appreciation of the amicable spirit shown in Dr. Sandler's publications in the English press.

# THE CHEMISTRY, PHYSIOLOGY, AND ÆSTHETICS OF A CUP OF TEA.

## CAFFEINE TANNATE AS THE CHIEF CONSTITUENT OF TEA INFUSION.

THE view that caffeine exists in an infusion of tea in the form of a definite compound with tannin is sustained by further experiments. In a previous article upon the subject[1] it was shown that when an infusion of tea (which always exhibits an alkaline reaction) was acidified with any acid a flaky buff-coloured precipitate settled out, especially in the cold, which proved to contain chiefly caffeine tannate. Further, the proportion of caffeine to tannin in this precipitate was found to be 1 of the former to 3 of the latter, and the suggestion was that the compound consisted of 1 molecule of caffeine $C_8H_{10}N_4O_2$, with a molecular weight of 194, associated with 1 molecule of quercitannic acid $C_{27}H_{26}O_{15}$ with a molecular weight of 602. In the previous article the formula was wrongly given as $C_{20}H_{20}O_9$. The ratio of caffeine to tannin in such a compound would be 1 : 3·1. The following is an example of the analysis of this precipitate from a good Indian tea :—

| | |
|---|---|
| Caffeine ... ... ... ... ... ... ... ... ... | 20·93 per cent. |
| Tannin ... ... ... ... ... ... ... ... ... | 62·80 ,, ,, |
| Resinous and oily matters (by difference)... | 16·27 ,, ,, |
| Total ... ... ... ... ... | 100·00 ,, ,, |

The precipitate amounted to 9·84 per cent. of the tea used in the infusion. A further experiment gave the following results :—

| | |
|---|---|
| Caffeine ... ... ... ... ... ... ... ... ... | 20·89 per cent. |
| Tannin ... ... ... ... ... ... ... ... ... | 62·66 ,, ,, |
| Resinous and oily matters (by difference)... | 16·45 ,, ,, |
| Total ... ... ... ... ... | 100·00 ,, ,, |

It follows that the precipitate obtained on making an infusion of tea acid consists principally of caffeine and tannin in the ratio approximately of 1 of the former to 3 of the latter. The presumption is that caffeine tannate is the chief body thrown out of solution by the addition of acid.

When, however, this precipitate is removed by filtration and the filtrate is saturated with ammonium sulphate a further separation of buff-coloured flakes takes place. On analysis these flakes show the following composition :—

| | |
|---|---|
| Caffeine ... ... ... ... ... ... | 24·13 per cent. |
| Tannin ... ... ... ... ... ... | 75·80 ,, ,, |

$$\frac{\text{Tannin}}{\text{Caffeine}} = 3{\cdot}14$$

The ammonium sulphate precipitate amounted to 4 per cent. of the tea used in the infusion (5 grammes in 400 cubic centimetres of just boiling water allowed to stand five minutes before pouring off). Calculation shows that this particular tea yielded a total of caffeine tannate of 12·26 per cent. Of this total 8·26 was thrown out by mere addition of acid and 4·00 per cent. by subsequent saturation of the filtered acid infusion with ammonium sulphate. There is no point in separating caffeine tannate first by acidifying and next by saturating with ammonium sulphate. The whole can be thrown down at once by adding ammonium sulphate after acidifying the tea infusion with dilute sulphuric acid. When this precipitate is air-dried and sunk in a mixture of 1 of alcohol and 2 of benzene the caffeine tannate is separated from the excess of ammonium sulphate crystals and resins and obtained in a comparatively pure state. The solution of caffeine tannate in benzene-alcohol mixture readily yields its tannin to lead oxide (litharge), the caffeine being set free. To give an example, a certain tea (Indian) yielded a total precipitate by ammonium sulphate amounting to 11·60 per cent. when dissolved in benzene-alcohol mixture and evaporated to dryness and weighed. The following was the process. A definite volume of the alcohol-benzene solution of the caffeine tannate was evaporated over a weighed quantity of lead oxide. The dry residue was then made into a thick paste with water and extracted with chloroform, which was poured off and evaporated in a platinum basin. The residue from the chloroform represents the caffeine contained in the caffeine tannate. The wet lead oxide paste was then dried to constant weight and the increase of weight shown over the original amount of lead oxide weighed out was regarded to be due to tannin. In this way a residue of 11·60 per cent. obtained by evaporating the alcohol-benzene mixture to dryness gave on treatment in the way just described :—

| | |
|---|---|
| Caffeine ... ... ... ... ... ... | 2·80 per cent. |
| Tannin ... ... ... ... ... ... | 8·80 ,, ,, |
| Total (caffeine tannate) ... | 11·60 ,, ,, |

With another tea the total caffeine tannate extracted from the ammonium sulphate precipitate by benzene-alcohol mixture was 12·80 per cent., and the constituents found by lead oxide separation were :—

| | |
|---|---|
| Caffeine ... ... ... ... ... ... | 3·20 per cent. |
| Tannin ... ... ... ... ... ... | 9·60 ,, ,, |
| Total (caffeine tannate) ... | 12·80 ,, ,, |

These experiments thus appear to establish that, complex as the composition of an infusion of tea may be, it at least yields a definite substance in the shape of caffeine tannate, the composition of which is constantly shown to be one part of caffeine with three parts of tannin.

## THE PREPARATION AND COMPOSITION OF CAFFEINE TANNATE.

Caffeine tannate is a very interesting substance apart from its occurrence in tea infusion. It may readily be prepared by mixing aqueous solutions respectively of tannin and caffeine in the cold, when a milky fluid, sometimes with flakes forming according to the strengths of the solutions, is obtained. If a few drops of carbonate of soda solution be added to the mixture a clear pale yellow solution results. If next a slight excess of dilute sulphuric acid be added caffeine tannate separates in flakes which admit of washing to remove free caffeine or tannin as the case may be. These flakes may be dissolved in alcohol-benzene mixture (1 to 2). On evaporating the solution to dryness a crisp crust of caffeine tannate is obtained. If this residue is taken up again in benzene-alcohol and evaporated over a weighed quantity of lead oxide the two constituents are separated. On evaporating the benzene-alcohol and moistening the mass with water to a paste chloroform may be added which will extract the whole of the caffeine ; the lead residue on drying to constant weight will give the amount of tannin as an increased weight on the lead oxide employed. To give an illustration. A benzene-alcohol solution of the precipitate obtained by adding acid to a solution of caffeine and tannin in weak carbonate of soda was evaporated to dryness. The weight was 0·1 gramme. The residue was re-dissolved in benzene-alcohol and the solution so obtained was evaporated to dryness in a platinum basin containing 3·210 grammes of lead oxide (litharge). The dried mass, after moistening, was extracted with chloroform. The residue (caffeine) from the chloroform, clean and white, weighed 0·025 gramme. The lead oxide, after being exhausted with chloroform, was then dried at 120° C. to constant weight. The weight proved to be 3·287 grammes, which represents a gain due to tannin of 3·287 – 3·210, or 0·077 gramme. The 0·100 gramme of caffeine tannate was thus split into 0·025 gramme of caffeine and 0·077 of tannin, figures which account for the whole of the original substance taken, and which give the product 3·08 when the proportion of tannin is divided by the proportion of caffeine. Caffeine tannate is readily soluble in boiling hot water, but as the solution cools it turns milky. It is, however, permanently soluble in water containing a little alcohol. If caffeine tannate be heated with a little water for some time it assumes the form of an oil.

It was next decided to add an excess of caffeine in solution to a known amount of tannin in solution. If tannin selects a definite amount of caffeine to form a compound it is evident that by estimating the remaining free caffeine in the mixed solution the amount that has combined with the tannin can be ascertained. Thus, 0·3 gramme of caffeine in solution was added to 0·3 gramme of tannin in solution, a few drops of carbonate of soda solution were added to make the mixture quite clear, and then dilute sulphuric acid was added in slight excess. Caffeine tannate readily separated in flakes from which a clear fluid could easily be poured off. The clear fluid was then repeatedly extracted with

[1] THE LANCET, Jan. 7th, 1911, p. 46.

chloroform and the chloroform extractions were evaporated. The data and results were as follows:—

| | |
|---|---|
| Caffeine taken ... ... ... ... ... ... ... ... | 0·3 gramme. |
| Tannin ,, ... ... ... ... ... ... ... ... | 0·3 ,, |
| Calculated caffeine in excess, assuming that 1 of caffeine combines with 3 of tannin ... | 0·2 ,, |
| Caffeine in excess found ... ... ... ... ... | 0·189 ,, |

It is difficult to extract caffeine completely from a bulky aqueous solution, but the result shows an approximation to a combination of 1 of caffeine with 3 of tannin having been formed.

Next the precipitate obtained (caffeine tannate) was split up by lead oxide as previously described:—

| | |
|---|---|
| Caffeine tannate taken weighed | 0·284 gramme. |
| Tannin found ... ... ... ... ... | 0·214 ,, |
| Caffeine ,, ... ... ... ... ... | 0·075 ,, |
| Total ... ... ... ... ... | 0·289 ,, |

The evidence is here again strong in favour of the existence of a definite compound of caffeine and tannin, consisting of one of the former and three of the latter.

The reverse experiment was next tried—that is, an excess of tannin in solution was added to a known amount of caffeine in solution:—

| | |
|---|---|
| Tannin taken ... ... ... ... ... | 0·30 gramme. |
| Caffeine ,, ... ... ... ... ... | 0·03 ,, |
| Calculated excess of tannin | = 0·21 ,, |

The mixed solutions were saturated with ammonium sulphate and thrown upon a filter. The filtrate was exhausted with ethyl acetate and the extraction evaporated to dryness (we noted before that free tannin is soluble in saturated ammonium sulphate, but that caffeine tannate is insoluble). The ethyl acetate gave 0·205 gramme free tannin against 0·21 calculated. The caffeine tannate formed was again split up by means of lead oxide, and there were obtained 0·10 gramme tannin and 0·03 caffeine, a total of 0·13 gramme caffeine tannate formed against a calculated 0·12 gramme.

### CAFFEINE TANNATE PHYSIOLOGICALLY CONSIDERED.

We suggest that these findings are important from a physiological point of view, because it is highly probable that caffeine in a state of stable chemical union with tannin must differ very materially in regard to therapeutic action from the alkaloid in a free or uncombined condition, especially having regard to the fact that tannin serves to some extent as an antidote to most alkaloids since it forms with them insoluble compounds. Similarly tannin when combined with caffeine is a totally different thing from tannin in the free state. The astringent properties of tannin, for example, disappear when it is combined definitely with caffeine. It follows that tannin in combination with caffeine will not tan. A solution of pure caffeine tannate does not act upon gelatin or proteins, so that when tannin is combined with caffeine its incompatibility with these dietetic substances ceases, and its objectionable retarding action upon digestion accordingly must be modified. If these conclusions are correct it becomes of the utmost importance to determine whether in the enormously popular beverage tea, caffeine or tannin exists in the free state or mutually combined.

We have already shown that to a large extent the teas which are regarded as of high quality by the merchant prove to yield infusions containing caffeine and tannin in the ratio of 1 to 3, and the strong inference is that such infusions contain neither free tannin nor caffeine, but neutral caffeine tannate. The merchant's view of quality would thus appear to accord quite happily with physiological considerations. He is guided, of course, chiefly by the flavour of the infusion, as well as by colour and odour and general appearances. Both tannin and caffeine in the free state have characteristic tastes: the former is astringent and sour, the latter is bitter. A slight excess of caffeine in tea infusion is probably less objectionable than an excess of tannin, since the disagreeable qualities of tannin are more marked. An ideal infusion is one which contains both caffeine and tannin in 1 to 3 proportion—i.e., caffeine tannate—neither constituent being in excess. This ideal is occasionally reached, but, generally speaking, most good teas contain caffeine in slight excess. Caffeine tannate, however, does not possess the qualities of its constituents; it has a peculiar flavour which is smooth and bland, not unlike a very delicate or lightly infused tea. It must be carefully borne in mind that in making these deductions we are not considering the chemistry of the leaf, but of its infusion made by pouring 400 c.c. of just boiled water upon 5 grammes of tea and decanting after 5 minutes—a plan suggested by the tea-taster's method of assaying tea.

### THE EFFECT OF "STEWING" SOME TEAS.

The desirable equilibrium may be disturbed by vicious treatment even of a good tea. If an Indian tea be boiled long enough or stewed on the hob a point is reached when tannin appears over and above the amount which can combine with the caffeine to form neutral caffeine tannate. Such an infusion presents the objectionable characters of tannin. When this infusion is saturated with ammonium sulphate the caffeine tannate as such is thrown out. If this is filtered off the excess of tannin will be found in the filtrate, from which it can be extracted by ethyl acetate. Thus the five minutes' infusion of an Indian tea showed a total tannin content of 9·24 per cent. and caffeine 3·70 per cent. On infusing the same tea for one hour the tannin amounted to 16·12 per cent. and the caffeine 4·40 per cent. In the five minutes' infusion, therefore, caffeine was in slight excess (0·38 per cent.) of the tannin, but in the one hour's infusion the tannin is in excess of the caffeine by 2·92 per cent. In other words, 4·40 of caffeine if combined as tannate would mean in the combination 13·2 of tannin, when as a matter of fact the total tannin found was 16·12 per cent.

The experience of making wholesome tea seems to have decided upon a limited time for making the infusion. This limit, in fact, appears to us to insist upon the infusion consisting as far as possible of caffeine tannate and upon the exclusion of an important quantity of free tannin or caffeine present. But even a five minutes' infusion of some teas may not approach this standard. Indeed, in view of our work upon the subject we are able to suggest a classification for teas as follows:—

Good teas are those which on a five minutes' infusion yield only caffeine in the form of caffeine tannate to the infusion, neither caffeine nor tannin being in excess; and bad teas are those which yield on infusion for five minutes a tea containing in addition to caffeine tannate either caffeine or tannin, but especially tannin, in excess.

It is obvious from this classification that a good tea may be made a bad tea, but a bad tea cannot be made a good tea, except possibly by very skilful blending. Excessive infusion will spoil a good tea, but a short infusion of a bad tea may be as objectionable as an excessive infusion of a good tea. On physiological grounds, therefore, the buyer of high-quality teas runs less risk of digestive disturbance provided he makes the tea properly.

These points are interesting in connexion with the light types of tea grown in China. The short infusions of these teas commonly contain an excess of caffeine, which probably accounts for their bitterness. They are less rich than Indian teas, a fact which should make the use of Indian teas more economical, but the best types of them never show the presence of free tannin. A five minutes' infusion of a certain China tea showed a total amount of tannin of 4·60 per cent. and caffeine 2·80 per cent. On the basis of the 1 to 3 relationship of caffeine to tannin in caffeine tannate it is evident that in this tea there is an excess of caffeine—viz., 1·27 per cent.—for the amount of caffeine that can combine with 4·60 of tannin is 1·53, making a total of 6·13 per cent. of tannate. As a matter of fact, the amount of caffeine thrown out as tannate when the infusion was saturated with ammonium sulphate was 6·48, which requires 1·62 of caffeine and 4·86 of tannin. In the five minutes' infusion, therefore, there was 1·27 per cent. of caffeine in excess. On infusing the same tea for an hour, however, the tannin then amounted to 7·14 per cent. and the caffeine to 3·20 per cent. Caffeine is still in excess, for the amount combined as tannate is 2·38 per cent., giving a difference of 3·2 − 2·38 = 0·82 per cent. Some China teas, therefore, are incapable of yielding free tannin, and these are invariably high-priced teas.

### ANALYSES OF INFUSIONS OF VARIOUS TEAS.

In the following table will be found a series of analyses of infusions made with Indian, Ceylon, and China teas respectively. The percentage results are based upon 5 grammes of tea used in the experiment, to which were

added 400 c.c. of just boiling water, the infusion being poured off after five minutes. The qualities of the teas from the merchant's point of view are indicated by

*Analyses of Infusions of Various Teas.*

| Description. | Caffeine tannate determined. | Tannin combined with caffeine.* | Caffeine combined with tannin.* | Total tannin determined. | Total caffeine determined. | Caffeine not combined with tannin. | Tannin not combined with caffeine. | Brokers' price per pound. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *s. d.* |
| Indian. | 8·54 | 6·41 | 2·13 | 6·80 | 2·56 | 0·43 | 0·39 | 7½ |
| ,, | 8·88 | 6·66 | 2·22 | 5 88 | 2·22 | — | — | 8 |
| ,, | 10·32 | 7·74 | 2·58 | 7·39 | 2·88 | 0·30 | — | 8½ |
| ,, | 11·48 | 8·61 | 2·87 | 8·41 | 3·52 | 0·65 | — | 8½ |
| ,, | 13·28 | 9·96 | 3·32 | 9·24 | 3·70 | 0·38 | — | 10½ |
| ,, | 9·60 | 7·20 | 2·40 | 8·73 | 3·20 | 0·80 | 1·53 | 11½ |
| ,, | 12·50 | 9·40 | 3·10 | 9·50 | 4·00 | 0·90 | 0·10 | 1 10½ |
| ,, | 13·36 | 10·02 | 3·34 | 10·92 | 4·32 | 0·98 | 0·90 | 1 10½ |
| Ceylon. | 8·88 | 6·66 | 2·22 | 6·30 | 2·80 | 0·58 | — | 8½ |
| ,, | 9·12 | 6·84 | 2·28 | 7·14 | 3·04 | 0·76 | 0·30 | 10½ |
| ,, | 10·40 | 7·80 | 2·60 | 9·82 | 2·96 | 0·36 | 2·02 | 10½ |
| ,, | 11·76 | 8·82 | 2·94 | 8·82 | 2·96 | 0·02 | — | 10½ |
| ,, | 13·28 | 9·96 | 3·32 | 9·66 | 4·00 | 0·68 | — | 1 1 |
| ,, | 12·00 | 9·00 | 3·00 | 8·40 | 3·60 | 0·60 | — | 1 4 |
| China. | 5·36 | 4·02 | 1·34 | 3·02 | 1·92 | 0·58 | — | 6½ |
| ,, | 5·60 | 4·20 | 1·40 | 4·87 | 2·72 | 1·32 | 0·67 | 8 |
| ,, | 7·60 | 5·70 | 1·90 | 5·04 | 2·72 | 0·82 | — | 9½ |
| ,, | 6·32 | 4·74 | 1·58 | 3·96 | 2·72 | 1·14 | — | 1 1 |
| ,, | 6·48 | 4·86 | 1·62 | 4·60 | 2·80 | 1·18 | — | 1 5 |

* Calculated.

the brokers' prices which are attached. It will be noted that, as a rule, the high-priced teas yield infusions containing a balance of tannin and caffeine, and in general a larger amount of these constituents. The use of a high quality tea is therefore not only salutary but economical also. A very fine example of Indian tea is No. 7. The infusion contained as much as 4 per cent. of caffeine and 9·50 per cent. of tannin. There was only 0·1 per cent. of tannin uncombined with caffeine and 0·90 per cent. of caffeine uncombined with tannin. The price of this tea was 1*s.* 10½*d.* per lb. On the other hand, Indian tea at about half the price—11½*d.*—gave 8·73 per cent. of tannin and 3·20 per cent. of caffeine, and there was 1·53 per cent. of tannin not combined with caffeine, and the liquor was accordingly harsh and astringent, although the time of infusion was only five minutes. The same applies to the Ceylon teas; a tea quoted at 1*s.* 4*d.* per lb. yielded no tannin over and above what is combined as tannate, while one tea quoted at 10½*d.* gave 2·02 tannin in excess. The tea at 1*s.* 4*d.* again yielded 3·60 per cent. of caffeine, while the tea at 10½*d.* gave 2·96. Ceylon teas, as a rule, show a more regularly balanced composition as regards the ratio of tannin to caffeine (3 to 1), a finding which would seem to show that Ceylon teas are all that can be asked for from a physiological point of view.

When we come to China teas there is again seen to be some relation between price and the percentage of caffeine. A cheap China tea, for example (6½*d.* per lb.), gives 1·92 per cent. of caffeine, while one at 1*s.* 5*d.* per lb. yields 2·80 per cent. China teas, again, rarely yield an excess of tannin, but nearly always an amount of caffeine in excess of tannin, and caffeine appears to occur in China tea with some constituent other than tannin.

## BLENDS AND THE BEHAVIOUR OF TEA WITH DIFFERENT WATERS.

So far we have been dealing with individual teas, but we now come to a consideration of blends. The aim of the blender is of course to produce a palatable tea and, more than that, to mix individual teas so that the whole shall be adapted to the peculiar requirements of different public water supplies. In doing this, does he unconsciously produce a mixed tea in which, whatever the drawbacks of the individual teas may be, a balance of caffeine and tannin somewhere near the ratio of 1 to 3 is effected? It is well known to tea experts that a tea which produces a pleasant palatable infusion with London water may easily be uninteresting or even possibly bad when made with, say, a very soft peaty water in Dublin or with the soft-water supplies of Plymouth, Aberdeen, Swansea, and elsewhere. The consumer has the same experience. He will have made up his mind after considerable trial that a certain tea in his judgment is best, at any rate at home. So convinced is he that the tea is a good one that when he happens to travel he will take care to have the same tea with him only to find out that outside his own district at home the tea becomes indifferent. In other words, he has found a tea which associates perfectly with the home supply of water, but which proves to go badly with waters of different quality. Hence the taster will always be careful to select a tea suited to a particular place, and it is invariably his plan to be sure of this by testing the tea with the actual water supplied to the neighbourhood for which the tea is required. It is difficult to see here what guides him in this matter except it be flavour. The probability is that rich teas are more suitable for soft acid waters than for chalky waters. We know, at any rate, that an acid water will tend to neutralise the alkaline salts in tea which keep tannate of caffeine in solution; it would tend to throw caffeine and tannin in the form of tannate out of solution, and so weaken the infusion, whereas chalky water would have the opposite tendency and draw closely upon the available tannin and caffeine which are present in the form of tannate. This is a mere suggestion which may find little support in practice, but so far as we have examined blends deemed to be suitable for certain water the choice appears to be in the direction we have indicated. Thus in a blend intended for consumption in Dublin, where the water is soft and acid from the peat, the total caffeine tannate amounted to 13·20 per cent., the caffeine and tannin being approximately in the 1 to 3 proportion, whereas a tea supplied to districts in Scotland where the water is soft but not acid the total caffeine tannate amounted to 8 per cent., and a tea for Wales, where the water is again soft but not so acid as Dublin water, the caffeine tannate amounted to 10·40 per cent., while the blends supplied for chalky waters showed amounts of caffeine tannate varying from 10·4 to 11·60 per cent.

In all cases it is interesting to observe that the blends showed a near approximation to the ratio of 1 to 3 of caffeine and tannin as in caffeine tannate, and whatever the individual requirements of different districts may be, the taster seems to know when and how a combination of teas will give a satisfactory result. The varying alkalinity of teas may probably be a factor in the case. What exactly lies behind the choice of a tea to suit the requirements of different districts is a theme which is difficult to pursue on merely chemical grounds, for in addition to the varying chemical characteristics of different water supplies, there are colonies of people who collectively like a strong pungent liquor, while there are others who prefer their tea to be light and delicate in character.

The subject is by no means exhausted, but we submit that the foregoing investigation has thrown some new light upon the real character of tea infusion, especially in regard to correlating æsthetic with physiological considerations. We have not concerned ourselves at all with the chemistry of the leaf, but with the chemistry of the cup of tea, and in our inquiry we have been assisted by devising new methods of examination. We hope that other investigators will be induced to approach the subject from this standpoint and append a short description of the analytical methods employed.

## METHODS OF ANALYSIS.

*The estimation of caffeine tannate.*—In all cases the infusion was prepared by taking 5 grammes of tea and pouring upon the leaves just boiling water to 400 c.c. and leaving the infusion to stand five minutes. It was then filtered. For the estimation of caffeine tannate 200 c.c. of infusion was just acidified with dilute sulphuric acid and then saturated with ammonium sulphate and kept cold. The fluid was then filtered and the filtrate kept for the extraction with ethyl acetate of any excess of tannin that might be present, or of caffeine by means of chloroform. [It may be noted that a very rapid method of ascertaining whether tea infusion contains an excess of

tannin consists in saturating the infusion with ammonium sulphate and filtering. The filtrate will contain any tannin present in excess of caffeine tannate which can be extracted by shaking with ethyl acetate separately and evaporating to dryness.] The precipitate in the filter was allowed to dry as much as possible in a current of air. The filter and its contents were then exhausted with a mixture containing 1 part of alcohol and 2 parts of benzene. The extracts were added together and made up to a definite volume (100 c.c.). A known measure of this (25 c.c.) was evaporated upon a weighed amount of lead oxide (approximately 3 grammes), keeping the mixture thoroughly stirred. The dry mass was then made into a paste with water and extracted several times with chloroform. The chloroform, evaporated carefully to dryness, gives the caffeine in the caffeine tannate. The lead residue was then carefully dried at 120° C. and weighed to constant weight. The increase in weight gives the tannin extracted by the lead oxide. Another portion of the benzene-alcohol solution (25 c.c.) is evaporated to dryness to give the total caffeine tannate.

*The estimation of total tannin.*—We found that good and consistent results were obtained by taking 20 c.c. of the fresh infusion, adding slight excess of bicarbonate of soda and running in N/10 iodine solution until some petroleum ether shaken after each addition with the mixture showed a slight excess of iodine present by the well-known violet colour. The factor for tannin was each c.c. of N/10 iodine used multiplied by 0·0021.

*Estimation of the total caffeine.*—This was estimated by first slightly acidulating the infusion with dilute sulphuric acid, then boiling with an excess of lead oxide. After half an hour or so a clear pale yellow fluid resulted which filters perfectly, and can then be several times extracted with chloroform, which on evaporation yields caffeine.

## PUBLIC HEALTH IN INDIA.

BY the courtesy of the several authorities concerned we have been favoured with copies of the annual official reports on the various departments of public health administration in the Indian Empire; and according to our custom we present our readers with a brief review of the principal topics dealt with. The reports deal with the calendar year 1910, except those referring to hospitals and dispensaries, which refer to the three years 1908–10. To a certain extent such reports must be belated, but their lessons are frequently none the less valuable.

### I. SANITARY ADMINISTRATION.

*United Provinces of Agra and Oudh.*

The vital statistics are, as usual, calculated on the population according to the Census of 1901—viz., 47,691,782, and the ratios, therefore, are probably far from accurate; but no other method is practicable. The birth-rate was 41 and the death-rate 38·67 per 1000, the former being well above the quinquennial average (38·68) and the latter well below it (43·33). The death-rate was, however, higher than in any other province in India except the Central Provinces, and was slightly higher than in 1909. The infantile mortality (227·3) was lower than in any year of the decennium except 1904, when it was the same. This infantile mortality-rate (the death-rate of children under one year, calculated on the births of the year) is a good guide to the general sanitary conditions that exist, and in 1910 special attention was directed to its causes; of these, malaria was found to be the chief, acting both directly on the infant, and indirectly through the mother; after this came insanitary surroundings, ignorance as to feeding, &c., and accidents or diseases connected with parturition. Prophylactic issues of quinine, special attention to sanitation in certain districts, and the distribution of leaflets giving simple instructions as to the feeding and care of infants were the remedial measures adopted.

Cholera was present during the year and visited all the districts, the death-rate reaching 2·15 per 1000.

Plague also increased considerably, causing a mortality of 3·31 per 1000; two districts, Ballia and Azamgarh, were especially affected, and many were entirely free; a scientific inquiry into this special selection of areas has been started by the Plague Research Commission. The fever death-rate, 27·07 per 1000, was less than the quinquennial average (31·02); the highest mortality was in Bulandshahr (35·39) and other districts in the Rohilkhand division; Garhwal (in the hills) with 17·78, and Ballia (18·16) had the lowest figures. Committees have been appointed in the respective divisions to inquire into the reasons for the extreme variation in the incidence of malaria. Meanwhile the use of quinine has been popularised by making use of new agencies for its distribution, and by doubling the commission on its sale. At Naini Tal there again recurred a prevalence of enteric fever. There were 37 cases in all, of which seven were imported; of the remainder, 26 were pupils at St. Joseph's College. The source of infection was definitely traced to the school latrines. In the year preceding there had been a slight outbreak at this school, traced to a carrier employed in the cookhouse. It is now stated that the latrines were situated in close proximity to the kitchen and dining-hall, and that they have been demolished. The authorities must feel much regret that this step was not taken at least a year previously. We note, however, that out of 206 samples of drinking water at this station examined bacteriologically, as many as 84 were reported to be "unsatisfactory." Advances continue to be made in sanitary works throughout the province. It is encouraging to learn that the Benares septic tank and filters are giving good results and that the Fiddian sprinklers are working well. Flushing of drains is now carried out in many of the large cities with excellent effect.

Major J. C. Robertson, the officiating Sanitary Commissioner, refers to the United Provinces Exhibition that was opened at Allahabad in December last. One court was devoted to medical and sanitary science. The exhibits were chosen and arranged so as to be, as far as possible, both interesting and instructive to the general public. The chief prevalent diseases were illustrated by models, diagrams, &c., leaflets were issued, and demonstrations given daily; also sanitary appliances were exhibited. This new departure is likely to be of very great benefit; the mass of the people will much more readily appreciate things seen than things talked about. We look forward to seeing a repetition in other parts of the country.

*Punjab.*

The statistics relate to the population as recorded at the census of 1901—viz., 20,108,690. The provisional figures of the 1911 census show a decrease of 1·8 per cent. In some districts it is much greater, in Ludhiana amounting to 23 per cent.; in Lyallpur, on the other hand, there has been an increase of 45 per cent. In this district and some others in the neighbourhood the increase has been due to immigration, while in the districts with diminished numbers the decrease has been chiefly due to malaria and plague. The birth-rate is returned as 42·7 per 1000 and the death-rate as 33·28; these figures are satisfactory compared with the quinquennial averages of 41·1 and 45·64. The birth-rate is, indeed, higher than in any other area except the Central Provinces, where it was 55·42. The rise in the birth-rate is a natural sequence of the healthy conditions of 1908–09, and represents the recovery of the people from the malaria and scarcity of the preceding years. The figures are, however, to be corrected by the Census which has taken place during the present year; in certain cases, such as the two just mentioned, this altogether alters the ratios.

The death-rate was 33·28, very much below the quinquennial mean (45·64), this being principally due to an improvement in plague and fever. More than half of this death-rate (17·10) was nevertheless due to fevers, and the plague mortality (6·74) shows a large increase over the two years immediately preceding. Cholera was less prevalent than in the quinquennium, though more so than in 1909; it appeared in the neighbourhood of Simla, but one case only was admitted in Simla itself, and no outbreak resulted. The small-pox death-rate (0·15) was lower than in any year since registration of deaths was introduced. Plague recurred with considerable severity after two years' intermission; it was most prevalent in the Delhi division and in the centre of the Punjab. The principal measures taken to control the disease have been inoculation, evacuation, and rat destruction. As

to the first, Major S. Browning Smith, chief plague officer, reports that it is gradually making headway; evacuation, on the other hand, is unpopular. Rat destruction, in the opinion of the provincial committee, is impracticable on a large scale and should be confined to places where plague persists during the quiescent period; some statistics are given, however, which appear to tell strongly in favour of trapping, but further experience is required. Fever caused a lower death-rate (17·10) than in any year since 1883.

The Delhi suburban drainage-works have made considerable progress, and an extension of the Simla water-supply is in the incubation stage—that is, the estimate of the cost of the scheme prepared in 1904 and approved by Government of India—is "under preparation." Work has been started on the Delhi water-supply extension required for the Durbar.

*North-West Frontier.*

In this province, with a population (1901) of 1,908,184, the birth-rate was 38·1 and the death-rate 26·9 per 1000. The death-rate is lower than in any other province in India. Colonel W. R. Edwards thinks that probably the deaths are not so accurately recorded as in the other provinces. Cholera broke out in all the districts, Peshawar suffering heavily, where the cool well water, presumably impure, is preferred to the purer, but warm, tap water. The wells were treated with permanganate of potash, which appears to have had a good effect. Colonel Edwards is averse to energetic measures in dealing with cholera, if in opposition to the wishes of the people, when he thinks they are worse than useless; the only thing that can be done is to offer advice and send out cholera pills and stimulating mixtures. With all respect to Colonel Edwards's undoubted experience, we must remark that this is not the policy that commends itself to most sanitarians; the Hardwar fair is a standing example of what may be done by energetic measures when used with discretion. Incineration of refuse is being attempted at Dera Ismail Khan and Peshawar; there are many objections to the method, however carefully carried out. Colonel Edwards's opinion is that the present filth grounds close to the city are a dangerous nuisance, and that the filth should be removed to a distance of about two miles, where land would be available for its useful disposal. This is very sound advice on the general question, and we do not know of any local circumstances at Peshawar to prevent its adoption.

*Central Provinces.*

The population of these provinces, including Berar, at the Census of 1901, amounted to 11,970,201; the provisional Census figures of the present year show considerable increase. The birth-rate was 55·42 per 1000, being higher than the quinquennial mean (52·33); it was also the highest recorded in the past three decades, and far higher than any other in India, for which as a whole the last five year rate was 38·64 per 1000. The death-rate was 44·88, also an excess over the quinquennial mean of 38·56, and a much higher rate than in any other province. This was accounted for by an infantile mortality rate of 276 per 1000, and by the fact that 56 per cent. of the total deaths occurred in children under 5 years old. Tetanus and capillary bronchitis were responsible for much, but not all of this; training of midwives is already in operation, and the Sanitary Commissioner confesses that "it is impossible to suggest any measures which would check this enormous death-rate in the near future." Fevers have been more prevalent during the year, and a special malaria officer has been appointed to study the conditions that prevail. With regard to plague, which broke out in the previous year, there was some extension of the area affected; the death-rate was 2·42 per 1000. The usual measures were adopted: evacuation, rat destruction, and disinfection. Some remarkable results are given by Captain Morrison, the special plague officer, as to the efficacy of inoculation. Out of 113 persons living in 27 houses in 11 villages 68 were inoculated, of whom none died; 45 were not inoculated, and of these 42 died. During the year separation of the sanitary from the medical department took place. The sanitary report is presented by Captain T. G. N. Stokes, I.M.S.

*Burma.*

The population of Burma in 1901 was 8,543,753. Calculated on this basis the birth-rate was 36·04 and the death-rate 28·13 per 1000 in 1910, the former being slightly higher and the latter slightly lower than the average. The birth-rate is lower than in any other province except Madras (33·6), but the Burma statistics are admittedly not to be depended on. The infantile mortality (under one year) was 233·24 per 1000 births. The causes of this were investigated at Mandalay, where 60 per cent. of the deaths were found to be from preventable causes, such as tetanus, bronchitis, pneumonia, premature birth, and malnutrition. At Bassein a similar inquiry was made, and 85 per cent. were found to be due to diseases of the alimentary tract, wasting diseases, and marasmus—i.e., improper feeding. At Maymyo the number of deaths at one year was actually 63 out of 104 births—i.e., 594 per 1000; no explanation is afforded. Five other towns had an infantile mortality above 400 per 1000. This terrible waste of life appears to be on the increase year by year, but it must be admitted that the registration of births is defective. The total death-rate was 28·13, the principal causes being fevers (9·37), dysentery and diarrhœal diseases (1·05), and plague (0·91). The fever death-rate was slightly above the average, and was highest in Thyetmyo (19·06). It is pointed out, however, that the heading "fever" merely means the total number of deaths minus a certain number returned under the few remaining headings given in the form. Plague prevailed in nearly all districts throughout Burma, but was not severe, the highest mortality being 0·42 per 1000 in the district of Amherst, Tenasserim. Active measures were taken throughout the province by disinfection, evacuation, inoculation, and rat destruction. Experience showed that evacuation and inoculation were successful. Trapping of rats answered in small, but not in large, towns; rat driving was found to be expensive, and only of use as a temporary expedient; other measures found to be successful were reduction of the rat harbourage and food-supply. Beri-beri has been inquired into during the past year. It prevails amongst the lighthouse keepers and crews of lightships. In 1909 there were 70 cases, in 1910 only 37. From May 1st, 1911, arrangements have been made for the supply of cured rice only, the results of which change will be watched with interest. Observations on the same disease are also being carried out at certain schools in Bassein, which will be reported later.

*(To be continued.)*

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THE next holiday course of the Berlin Dozenten-Vereinigung will be held from March 4th to March 30th, 1912. The prospectus of the course may be obtained gratis on application to Herr Melzer, Ziegelstrasse, 10/11 (Langenbeck Haus), Berlin.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—The annual festival dinner of the Victoria Park Hospital was held on Nov. 22nd, at the Hotel Métropole, under the chairmanship of Mr. Andrew Motion, who for many years has been a prominent supporter of the hospital. A large company was present, and the evening was a great success. The chairman was supported, among other friends of the institution, by Sir G. W. Truscott, Sir Edward Coates, M.P., Sir Henry Burdett, Sir M. Bhownagree, Mr. C. G. Marsham, the Mayor of Bethnal Green, and by Dr. E. Clifford Beale, Dr. T. Glover Lyon, and other members of the medical and surgical staff. There were also present a large number of representatives of the various working-men's associations which take an active interest in the work of the hospital and collect money for its support. The chairman, in proposing the toast of "The City of London Hospital for Diseases of the Chest," announced that the sum of £3000 which was urgently needed had been subscribed during the evening. He said that the working men of the district were the backbone of the institution, and that their support was one of its principal assets. His appeal for more subscriptions to the hospitals to save them from nationalisation aroused great enthusiasm. The secretary, Mr. G. Watts, then read the list of recent subscriptions, which amounted to more than £3115, and included £890 from working men. Sir Edward Coates proposed the health of the medical staff in an eloquent speech, and Dr. Glover Lyon replied. The chairman's health was proposed in warm terms by Mr. Herbert Robertson.

# THE NEW BOTANICAL LABORATORIES OF THE UNIVERSITY OF MANCHESTER.

THE new botanical laboratories of the University of Manchester were opened on Nov. 3rd by Dr. D. H. Scott, Director of the Jodrell Laboratory at Kew, who was a friend and fellow worker of the late Professor Williamson, whose work on fossil plants from the coal measures placed him in the foremost rank of fossil botanists. The bequest of the late Professor Barker for the foundation of a chair of cryptogamic botany, in addition to the steady growth of the botanical department as a whole, made it necessary for the council to provide suitable accommodation for this subject. At a cost of £12,000 a new block has been erected on the University site, with a north frontage for microscopic work. The building has four main floors and two mezzanines and is a square block 40 ft. by 40 ft. There is a special room for palæobotany on the ground floor. On the same floor is a laboratory for 30 junior students connected directly with the large elementary laboratory which accommodates 40 more students. There is on the first floor a research laboratory, with 40 ft. of north light for microscopic work and places for the workers. The second floor is devoted to cryptogamic botany under Professor W. H. Lang, as well as to investigations in connexion with plant diseases. On the third floor is the laboratory for plant physiology. On the top of the building are greenhouses and other arrangements for the study of plant life. This new block is entirely devoted to laboratory accommodation and does not contain any lecture rooms or museum galleries. On the Behrens estate, some little distance from the University, there are experimental grounds and greenhouses for economic botany. Over the main entrance is a Latin inscription which is an extract from the *Benedicite* of the Prayer Book: "O all ye green things of the earth, praise ye the Lord"—a motto suggested by the architect, Mr. Paul Waterhouse.

Dr. Scott in his address at the opening of the laboratories called attention to the fact that during the 60 years that had passed since the foundation of Owens College there had been only two professors of botany, the first being Professor Williamson and the second Professor F. E. Weiss, the present holder of the chair. Dr. Scott spoke of the many-sided character of Professor Williamson—as a medical practitioner, a botanist, a vigorous and successful lecturer both in the class-room and on public platforms, as an aurist, and above all as a great scientific investigator, especially in a domain which he made his own—viz., fossil botany—and thus brought home to scientific people the importance of those fossil remains which showed structure. Dr. Scott said that besides training medical and science students, the department would offer facilities for students from an agricultural college, and no doubt would do its best to throw light on agricultural problems. All the resources of science would be needed to make agriculture remunerative, not to the big farmer alone, but, what was as important, to those who had the actual work to do with their own hands. We are able to present our readers with two views of the new laboratories.

FIG. 1.

New Botanical Laboratories, University of Manchester.

# INFANTILE MORTALITY IN ISLINGTON.

*Meteorological Conditions.*

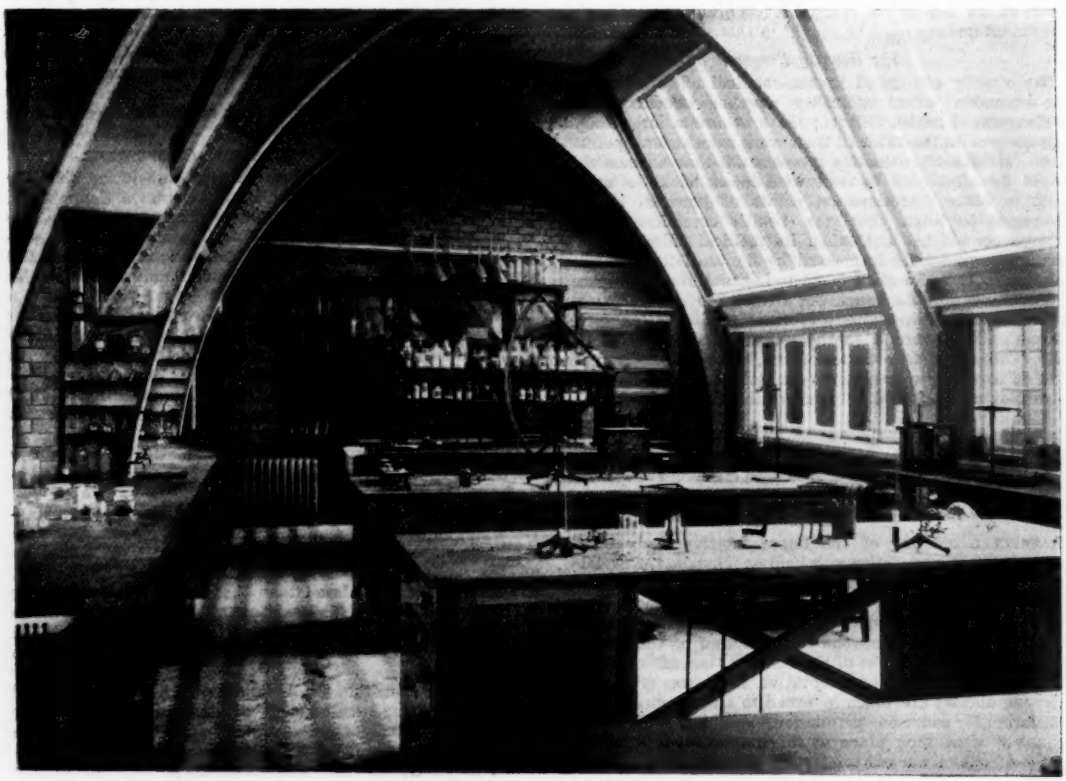
THE almost unprecedented persistence of fine weather and high temperature during the present Coronation year, that contributed so much to the success of festivities of all kinds and the enjoyment of all classes, has had, as was to be expected, another aspect in the serious increase of infantile mortality in London. Laertes tells us that "the canker galls the infants of the spring," but it is the infants of the summer that die off most quickly. From the last week in June until the middle of September the shade temperature, as recorded in THE LANCET office, reached 70° F. or more on every day but three; temperatures in the "eighties" were very frequently recorded, and five times in July and August the shade maximum exceeded 90°. In the previous year a shade maximum of 70° to 77° was only reached about 20 times from the middle of July to the end of September. The effect of the great elevation of temperature has naturally been seen in a rise of the diarrhœal death-rate in children under two years old during the third quarter of the year; the deaths in London from this cause, which numbered 58, 239, and 342 in the months of July, August, and September, 1910, rose to 276, 2666, and 1369 in the same three months of the present year; these last figures correspond to an (annual) infectious disease death-rate of 1·3, 6·6, and 4·4 per 1000 for these three months severally, the diarrhœal deaths constituting by far the largest proportion of the total deaths from infectious diseases. The boroughs that have been most affected have been Poplar and Bethnal Green, which had infectious disease death-rates of 11·9 and 11·8 respectively in August.

*Report of Medical Officer of Health.*

Mr. A. E. Harris, whose report for the year 1910 as medical officer of health of Islington we dealt with in our issue of Nov. 18th, p. 1423, has addressed a special report to his health committee on this matter, which we trust will be taken seriously into consideration by the whole council. He points out that actually more than one-fifth of the infants born in the borough within the year have died—viz., 407 out of 1989—the chief causes being diarrhœa, dysentery, and enteritis, generally of the epidemic form. In the sub-districts of Lower Holloway and Barnsbury the infantile mortality rate was as high as 268 and 297 per 1000 respectively. If the breeder of horses, cattle, or sheep were to lose 20 per cent. of his foals, calves, or lambs, a commission of inquiry would be instituted by the Board of Agriculture to examine into the causes of such a disaster, and when these had been found the application of a remedy would be insisted on. With regard to the deaths of infants, advice is tendered by the Local Government Board, but, as Mr. Harris says, no authority insists that it should be taken.

As to the causation, this is pretty generally known. A special inquiry was made as to the feeding of the 201 infants who died under one year. Only 19 were breast-fed; that is, 182, or 90 per cent., were hand-fed, a circumstance which throws a ghastly light on the cause of the mortality. Now, investigations that have been made in several towns—e.g., Derby—show that, speaking generally, from 60 to 80 per cent. of the infants born are breast-fed, so that it is only from 20 to 40 per cent. of the mothers that require to be induced to suckle their children; in Islington Mr. Harris estimates that the proportion is not more than 30 per cent.; these are the people to be got hold of and instructed. He believes that they are mostly in good health and capable of

FIG. 2.



Laboratory for Plant Physiology, third floor, University of Manchester.

nursing their infants; from inquiries made it appeared that of the mothers of the infants that perished, 63 per cent. were in robust health and 14 per cent. moderately strong, so that 77 per cent. might have nursed their infants, if they had wished, unless obliged to go out to work; only 45, however, of the 201 mothers had any occupation away from their own houses.

The excessive infant mortality this year has been in marked contrast with the healthiness of the third quarter of last year, when the rate in Islington was only 67 per 1000 births. This was on account of the very moderate temperature, the comparative freedom from dust, and the absence of flies that marked the summer of 1910. In 1911 the conditions have been very different; the mean temperature was 5·1° and the highest daily temperature 7·9° above the decennial mean; the rainfall was 3·42 inches below the mean, and the registered sunshine 284 hours in excess. This last element, however, in the meteorological conditions Mr. Harris calls "the saving factor of the quarter," as it doubtless destroyed much bacterial life. To complain of unprecedented heat in a report which also contains praise of excessive sunshine is, of course, only an apparent contradiction, for while sunshine has heat for one of its results, it has other effects, and the germicidal quality must be sought in these, not in the heat.

*The Remedy Proposed.*

The remedy advocated by the medical officer, by which this excessive infant mortality may be checked, is the employment of health visitors; there is now a large body of testimony as to the value of their work from several points of view. Mr. Harris earnestly recommends that at least three should be appointed to deal with infant sickness and to assist in other directions on points of personal hygiene. We regret to learn that the health committee of the borough council has not taken its medical officer's advice, though it was so far impressed by the statistics furnished, and the facts laid before it, as to instruct him to prepare a memorandum on the dangers of artificial infant feeding and on the extreme importance of breast feeding, this memorandum to be forwarded to the mother of every newly born child. This is better than nothing, but we do not consider it as in any way a satisfactory substitute for the first-hand instruction and personal influence of the health officer.

# BRITISH MEDICAL ASSOCIATION:

## SPECIAL MEETING OF REPRESENTATIVES.

A SPECIAL meeting of the Representative Body of the British Medical Association was held on Thursday, Nov. 23rd, and Friday, Nov. 24th, in London at the Connaught Rooms, to consider the report of the Council on the National Insurance Bill as amended in Committee of the House of Commons, and to discuss the future action of the Association during the last stages of the Bill and thereafter.

The meeting of the Representative Body was not open to the press, and we are much indebted to the executive of the Association for courteous permission to publish the following account of what took place at this important meeting from the pen of one of our editorial staff to whom admission was granted.

The representatives sat from 10 A.M. until 8 P.M. on Thursday, and from 9.30 A.M. until 5 P.M. on Friday, and every point received the closest attention of all present. It was generally recognised that the decisions arrived at during this meeting would have the most far-reaching consequence to the medical profession, and the gravity of the position was obviously plain to an assembly imbued with a sense of the importance of the occasion and conversant with the details of the measure under discussion.

### PROCEEDINGS IN COMMITTEE.

Shortly after the disposal of the more formal items on the agenda paper on Thursday morning the meeting resolved itself into committee, and the deputy chairman of representative meetings, Dr. R. C. Buist, was called to the chair in order that the chairman, Dr. E. J. Maclean, might be free to speak and to move official resolutions. Dr. Buist proved himself to be an admirable chairman in circumstances requiring a high degree of tact, discernment, and knowledge.

It was well known beforehand that a number of representatives, particularly those from the northern counties, had been instructed by their divisions to advocate the rejection of the Bill in its present form by the medical profession, and to advise the immediate cessation of all further negotiations by the Council of the Association. This attitude was reflected in many speeches and proposed amendments. But the general sense of the meeting—largely guided by temperate counsels from the leaders of the Association—was against premature and violent action. It was pointed out that everything was to be lost and nothing to be gained by utilising the "strike weapon" at the present moment, whilst the Bill is still under consideration by Parliament, and before the profession has tried its utmost to shape it into a satisfactory form.

Although there was this wide difference of opinion upon the action that should be taken by the Association, it was quite obvious that all the representatives were agreed that the Bill in its present form was entirely unsatisfactory to the medical profession. From the beginning of the meeting discussion centred itself around the difficult question of immediate action: whether the profession should refuse service under the Bill forthwith, or whether the Association should continue its efforts to amend the Bill up to the last moment.

The business on Thursday included the reception of the Council's report to the divisions upon the position of the profession under the amended Bill. The report of the action taken by the Council since the annual representative meeting in July at Birmingham was also considered, and important correspondence with the Chancellor of the Exchequer arising out of this report was read.

### CORRESPONDENCE WITH THE CHANCELLOR.

In reply to representations of the Association that the recent increase in size of the Local Insurance Committees, without provision for any corresponding increase in the number of medical members of such committees, was prejudicial to a friendly reception of the National Insurance Bill by the medical profession, the Chancellor stated that under the Bill the Commissioners have full power to nominate a larger number of medical men where circumstances render it expedient. He further stated that in the case of the large committees it was intended to exceed the number which the Bill at present obliged the Commissioners to appoint. The Chancellor considered that the Bill provided for medical representation on the Auxiliary Committees, and stated that the powers given would be used.

The Chancellor promised to amend the Bill in such a way as to facilitate the supply by medical men of medicines and appliances.

It having been represented to the Chancellor that combinations might be made under the Bill whereby medical men might be employed at a lower rate than that locally paid by an Insurance Committee to practitioners on the local panel, the Chancellor considered that the temptation for making such combinations did not exist under the Bill, inasmuch as any saving effected out of the apportioned moneys would be credited to the Insurance Committees and not to such combinations.

To a submission from the Association that provision should be made for compensation to medical practitioners who may be proved to incur loss in the value of their practices through the operation of the Bill the Chancellor made no reply.

Mr. Lloyd George said that he would propose an amendment to secure that in each case at least one Insurance Commissioner for Scotland, Ireland, and Wales should be a medical man, as is provided in the case of the English Commissioners.

In the leading article on the National Insurance Bill in the last issue of THE LANCET it was assumed that the proceedings of the Representative Meeting would be arduous, protracted, and important. This forecast was fully justified. It was based as much upon the direct indications which had reached us of the feelings and intentions of the various sections of the profession as upon our knowledge of the Council's report and of the recommendations which it proposed to lay before the Representative Body. For the greater part of both Thursday and Friday the Representative Meeting remained in committee. The committee stage concluded on Friday at luncheon-time, and the Representative Meeting then resumed and adopted in quick succession various important resolutions which had been passed by the members in committee.

### THE RESOLUTIONS ADOPTED.

These resolutions, among other points, reaffirmed the Association's insistence upon the six cardinal principles of

its declared policy being adopted; pressed for the deletion of the Harmsworth amendment; declared that the actuarial estimate of 6s. per head was inadequate; urged that at least one-tenth of the members of Insurance Committees should be medical practitioners, and that there should be corresponding medical representation upon auxiliary committees; pressed for the appointment of medical men as Insurance Commissioners for Scotland, Ireland, and Wales, for the restoration of medical benefits in the case of Ireland under the same conditions as in England, and for adequate provision for institutional treatment for insured persons. The Representative Body also approved the action of the Council in asserting the right of medical practitioners to provide drugs and medical appliances to insured persons, but not at an inclusive fee.

The declaration of insistence upon the six cardinal points, proposed by the Council and approved and extended by the meeting, must be quoted in full:—

That the Representative Body declare the determination of the Association to insist upon the arrangements made with medical practitioners for giving attendance and treatment to insured persons being consistent with the six cardinal principles formulated and approved by the Representative Meeting of June 1st, 1911, and confirmed by the Representative Meeting, Birmingham, in July, 1911; and that a copy of this resolution be sent forthwith to the Chancellor of the Exchequer and the press, and to each Member of Parliament, through both the head office and the honorary secretaries of divisions; and that steps be taken to ensure that the Chancellor of the Exchequer be informed of the declaration in the House of Commons itself.

It was unanimously agreed on Thursday that this recommendation of the Council (as amended) should be placed first amongst the resolutions passed by the Representative Body.

The final "Declaration with Regard to Future Action as to the Cardinal Principles" must also be quoted in full:—

That in the event of the Insurance Bill becoming law the British Medical Association use every possible means to ensure that no medical practitioner undertake the medical attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the policy of the Association.

In support of this latter momentous resolution the Chairman of Representatives, Dr. Maclean, made an impressive speech, which amounted to a defence of the council's action and an appeal for fair play. He urged the Association to trust in its own strength and in its leaders, and he denied indignantly that there had been any compromise between the Council and the Government. He suggested that it would be disastrous for the profession at the present stage to wash its hands of the Bill and cease to press for amendments. In his belief the resolution was intended to focus the strong determination of the Association to realise its fixed policy, whether by means of present representations made to the Government or in the future by standing out in part or in whole from working under the Bill. The Chairman of Council, Dr. J. A. Macdonald, followed with a short and vigorous justification of the action taken by the leaders of the Association. He deprecated the suspicions which had lately been manifested in various quarters, and he put it to the meeting that in the difficult and unprecedented circumstances arising under the Bill he and his colleagues had not been taken unawares. More than a year ago they had gone into the question of State insurance. They had done all that could be done, and would yet achieve success, provided that they had behind them the loyal and undivided support of the Association. Again, later in the proceedings Dr. Maclean dealt with the rumours and suspicions and hints of disaffection which had been ventilated by certain representatives. His indictment of these signs of discontent made a deep impression upon the meeting, and his final appeal for confidence in himself and in those who were working with him was received with great enthusiasm. The final resolution carried by the representative body was:—

That preliminary consideration should be given to the organisation of the profession for the purpose of protecting their interests under the Insurance Bill, and that in order to prevent sectional defeats of the profession through terms having to be arranged locally between Local Insurance Committees and the profession, the Association take such steps as to secure: (*a*) That the Local Medical Committees throughout the country be kept in touch with one another through the central office of the Association; and (*b*) that no arrangements for attendance on insured persons be completed anywhere until the Association is assured by reports from the Local Medical Committees that terms in conformity with the policy of the Association *in detail* have been agreed upon everywhere.

Before the meeting closed its arduous and responsible task warm appreciation was expressed to the executive officers of the Association, including the editor of the *British Medical Journal*, for all their devoted work, and the concluding vote of thanks to Dr. Maclean was carried with loud acclamations.

# THE NATIONAL INSURANCE BILL.

## THE MEDICAL PROFESSION IN EDINBURGH AND THE INSURANCE BILL.

DURING the past week the profession in Edinburgh has been largely absorbed in the questions arising out of the Insurance Bill, which has passed through Committee of the House of Commons without having been altered as the profession had demanded. On Tuesday, Nov. 21st, the Edinburgh and Leith Division of the British Medical Association held a large meeting under the chairmanship of Dr. JAMES RITCHIE, and the meeting was unanimous in reasserting the six original cardinal points, while it further expressed unanimously disappointment at the tone of the report on the Bill of the Council of the Association as it at present stood. The correctness of this second opinion has been shown by the action of the Representative Meeting in London passing the newly-worded and strong resolutions on Friday last (Nov. 24th) after long debate.

On Wednesday, Nov. 22nd, a meeting of the Edinburgh and Leith Medical Practitioners' Association was held in the hall of the Royal College of Surgeons. The chair was occupied by Dr. ALEXANDER JAMES, and there was a very large gathering of the local profession.

The secretary, Dr. JOHN M. BOWIE, read a letter from Mr. G. A. Berry, President of the Royal College of Surgeons, in which he said: "My feeling is that the whole profession is bound to make the most determined effort to resist a scheme of legislation which, however beneficent in theory, seems calculated to degrade it, and therefore react unfavourably on the public. It was bad enough to introduce a measure affecting our profession as it would do, without adequate consideration of the conditions under which it could be carried into effect. Now that definite representations have been submitted practically unanimously by the profession, it is little short of an insult to the profession as well as to the public."

Dr. JAMES said they met at a time when they recognised that the real relationship of their profession to humanity was being endangered, and when all they regarded highest, as disciples of the healing art, was being threatened. Why was it, he asked, that this Bill, which promised such beneficial results to a large number of their fellow men and gained for itself the approbation and support of so large a public—why was it received by the medical profession in a spirit of aloofness, rapidly widening into open hostility? The answer was simply because, whilst the general public believed that this Bill would be able to perform all that it promised, the medical practitioner recognised that it was promising what it would not carry out. He felt that it would be unfair to themselves and to the community as a whole if he did not advance the claims of the medical practitioner to special fitness in estimating the value of this Bill in other aspects as well as those which were purely medical. In his daily intercourse with feebleness, suffering, and disease, the practitioner had every opportunity placed before him of interpreting the onset of bodily ills in the light of the social ills of humanity as a whole, and no one better than he could value the influence which successive Acts of municipal and State legislation had been exercising on those social ills. But no one knew better than he that there were limits to this State interference, and practically all of them there that night had years enough and experience enough to enable them to form a judgment as to the real value of the philanthropic and socialistic legislation which the last two or three decades had brought forth, and of which this Insurance Bill was to be regarded merely as the latest instalment. Recognising that, as all political economists had pointed out, the majority in any community must always be formed of the inferior, the practitioner in medicine could discern that the more readily such legislation commended itself to the majority, then with the least ultimate benefit from it accruing to the community, there would be the greatest immediate benefit accruing from it to the philanthropic legislators themselves. Philanthropic legislation was far too often the worst kind of legislation, because it tended to bring out the worst, both in those who made the law and in those who had to obey it.

Dr. JAMES SMITH, a well-known worker in the east side of the city and a member of the School Board, who said that he

was of the same shade of politics as Mr. Lloyd George, submitted the following resolution:—

That this meeting resolves that no medical practitioner ought to accept office under the National Insurance Bill if passed into law in its present form.

Professor F. M. CAIRD heartily supported the motion and the position the profession were taking up.

Dr. ROBERT ROBERTSON, who is a member of Edinburgh town council, moved the second resolution:—

That a pledge be given by each medical practitioner in the Edinburgh area that he will not accept office under the Bill if it becomes law in its present form.

This was seconded by Dr. A. LOGAN TURNER, who further proposed that a message should be sent to Lancashire and Cheshire: "United, we stand with you."

Dr. E. F. ARMOUR moved the third resolution:—

That each medical practitioner in the Edinburgh area binds himself not to accept any kind of appointment under the Insurance Act, unless the terms of such appointment have been approved by a local representative medical committee.

This motion was warmly supported by Dr. G. A. GIBSON, who said they were going to boycott the Act and all its doings. If the Bill became an Act in its present form it meant that the profession would be reduced to little better than the level of Poor-law inspectors, and the medical work of the past would become null and void.

Dr. W. ALLAN JAMIESON, Vice-President of the Royal College of Physicians, and others addressed the meeting. It was determined to send a copy of the resolutions to the Chancellor of the Exchequer and others. Dr. W. Craig, of Fife, who was on his way to London to attend the Representative Meeting, was asked to convey the resolutions to that body. All the propositions were carried with acclamation and the meeting was one of the most enthusiastic which has been held.

### IMPORTANT MEETING IN GLASGOW.

*Defending Rights and Privileges.*

A meeting of the Fellows and Licentiates of the Royal Faculty of Physicians and Surgeons and of members of the medical profession in the city and district was held in the Faculty Hall, St. Vincent-street, Glasgow, on Saturday, Nov. 25th, for the purpose of considering a report by the Council of Faculty on the National Insurance Bill. Dr. JAMES A. ADAMS, President of the Royal Faculty, occupied the chair, and there were above 200 medical men present.

The CHAIRMAN said that the Insurance Bill had been so juggled with and changed that they really did not know where they were, and they had a dread that they might be jockeyed into a position which would be difficult to get out of. The Council had therefore determined to formulate certain resolutions which he would submit to the meeting. The first resolution which he moved, in the name of the Council, was as follows:—

That the Insurance Committee should include a representation of duly qualified medical practitioners to the extent of one-eighth of the total number and adequate representation on the auxiliary committees.

Dr. JOHN BARLOW, in seconding, said that many of the points to which medical men attached importance were left for final decision to the Insurance Committees. These would be formed in each county or burgh in Scotland. He was in favour of the Bill though opposed to contract practice altogether, but he thought they were all in agreement that a proportion of three medical practitioners out of 48 or 80 members, as the case might be, was not adequate. The proportion suggested by the resolution would ensure the medical point of view being brought forward fairly.

Dr. J. MCGREGOR ROBERTSON and Dr. J. HAMILTON suggested the desirability of discussing the question of approval or non-approval of the principle of the measure before dealing with details. Dr. Robertson thought that the members should be asked to say "whether they approved of chaining round the neck of the profession for ever the abominable system of contract practice."

The CHAIRMAN desired the public to recognise that while they made this protest they were doing all in their power in a courteous and tolerant manner to consider the scheme and to do the best they could with a bad bargain. Registering pious opinions would not stop the Bill from passing. He thought they should deal with the resolutions before them first.

The resolution was then approved.

The CHAIRMAN then moved the second resolution as follows:—

Wherever a voluntary hospital or other charitable institution is used by the Insurance Committee, adequate payment for the maintenance and treatment of the patient shall be made to such voluntary hospital or charitable institution by the Insurance Committee.

Professor J. GLAISTER, in seconding, reminded them that contributions of workmen and their employers in Glasgow formed practically two-thirds of the whole revenue of the hospitals, and were it not for the bequests from which deficiences in annual expenditure were made up the hospitals in Glasgow would be bankrupt. If the workmen's and employers' contributions were withdrawn, as they probably would be on the passage of the Bill, the hospitals would lose their power to afford charitable relief to those who required it. He thought, however, that at present they should continue the voluntary organisations as long as possible, and he strongly supported the resolution on the ground that if people were to be taxed for the funds under the Bill, when they required hospital treatment they should pay the corresponding proportion of the cost which they laid upon the hospital fund, and that fund should come from the local Insurance Committee.

Dr. MCNICOL moved a direct negative, and the amendment was carried.

The third resolution, moved by the CHAIRMAN and amended by Dr. HAMILTON, was as follows:—

That this meeting is of opinion that the other recommendations contained in the six cardinal points of the British Medical Association not included in the preceding resolution should be incorporated in the Bill.

This was carried.

Dr. ROBERTSON said that before that resolution was approved he would submit the following motion:—

That while this meeting approves of the amendments in details submitted on behalf of the profession by the British Medical Association, if the Bill is forced through more or less in its present form, it does not approve of the method of dealing with the profession which is at the foundation of the medical provisions of the Bill.

The Bill, he said, was contract practice writ large, with, besides, the stamp of the Government, of Parliament upon it, and while at any moment the medical profession, in any body or as individuals, could destroy, if they chose, medical contract practice as it existed, if they permitted this Bill to pass they would never destroy it, but would be riveting it round the neck of the profession for ever.

The resolution was carried.

On the motion of Dr. PERRY, seconded by Dr. DUNCAN, the meeting agreed unanimously to the following resolution:—

That in the event of the Insurance Bill becoming law without the amendments recommended by the British Medical Association, this meeting shall endeavour to ensure that no medical practitioner shall submit to the rules under the Bill.

A resolution was also carried as follows:—

That the foregoing resolutions be forwarded to the General Medical Council, the Prime Minister, the Chancellor of the Exchequer, and the Members of Parliament for the city of Glasgow.

### ABERDEEN AND DUNDEE: THE MEDICAL QUESTIONS OF THE NATIONAL INSURANCE BILL.

The clerk and treasurer of the Aberdeen Royal Infirmary has sent a letter in the following terms to the local Members of Parliament:—

*National Insurance Bill.*

I am requested by the directors of Aberdeen Royal Infirmary to communicate to you the following resolution which was unanimously passed, (1) on 2nd instant, by the council of the British Hospitals Association; and (2nd) on 10th instant, by a large and representative meeting of hospital managers and administrators held in Glasgow, viz.:—

"That the National Insurance Bill is incomplete unless it provides for the hospital treatment which insured persons must have if their medical needs are to be covered by the Bill."

The directors fully concur in the resolution. They are of opinion that in omitting provision of hospital treatment for insured persons the Government has failed to realise the serious position in which such persons will be placed. It is certain that many of them will require medical and surgical treatment which cannot be rendered to the best advantage otherwise than in hospital, and yet the fact that they will be statutorily provided with sick and medical benefit, will in itself—under the constitutions of most of the voluntary hospitals—disentitle them to receive free treatment and maintenance in those institutions. In these circumstances the directors trust that you, along with your fellow Members of Parliament, will give this matter most serious consideration, with the view of, even yet, having this grave defect in the Bill rectified. I am further desired to say that the directors regard with great apprehension the possible effects of the Bill, if passed in its present form, upon the financial interests of the hospital.

The directors of the Dundee Royal Infirmary have forwarded a copy of the same resolution to the Members of Parliament for Dundee, Montrose Burghs, East Perthshire, East Fifeshire, and St. Andrews Burghs. To this the following communication has been appended:—

The directors (of the Dundee Royal Infirmary) are of opinion that the passing of the Bill in its present form will have such an effect upon the finances of this hospital that its work among the sick and hurt poor of the city will be greatly crippled. Over a fifth of the whole income of the institution is derived from contributions from the employees in mills, factories, and workshops, who will be insured persons under the Act, and from the personal knowledge of the directors they are satisfied that these contributions, as well as those of employers, will, if not altogether, at least to a large extent, be withdrawn upon the passing of the Act. The necessity for being able to give effective hospital treatment in a city such as Dundee is evident, when it is taken into account that the accommodation in the houses of large numbers of the population does not admit of their being properly attended to at home when serious illness overtakes them. If, therefore, the infirmary be not as available as in the past the workers would be the first to suffer. With regard to the maternity benefit, the directors would point out that the Dundee Royal Infirmary includes the Dundee Maternity Hospital, in which 370 indoor and 890 outdoor patients were attended last year. If it be decided that the indoor patients in a hospital are to receive the maternity grants for the upkeep of their homes during the four weeks of their inability to work it would seem reasonable that some arrangement should be made by which an allowance might be given to the hospital during their residence therein. The directors trust that you will give favourable consideration to any amendments which may be proposed for the provision of hospital treatment when required by insured persons, and that you will join in supporting such amendments.

A meeting of the medical practitioners in the area of the Aberdeen Division of the British Medical Association was held on Nov. 22nd. There were over 100 medical men present, and after a full discussion all the recommendations of the Council of the Association were unanimously and enthusiastically adopted, and the following resolution passed:—

That this meeting resolves that unless the Bill be so amended as to satisfy the medical profession in reference to the six cardinal points the profession refuse to work under the Bill.

At a meeting of the Dundee Branch of the British Medical Association the following resolution was passed:—

That the branch express its dissatisfaction with the National Insurance Bill as it now stands, and declare its determination not to undertake service under the Bill unless our cardinal points are granted.

Both the Aberdeen and the Dundee resolution were forwarded to be read at the meeting of Representatives of the British Medical Association in London.

### THE QUESTION OF MEDICAL BENEFITS IN IRELAND: AN APPEAL TO MR. REDMOND.

In a letter addressed to Mr. Redmond by Mr. J. Smith Whitaker on behalf of the British Medical Association and the Irish Medical Association sets out the opinions of the Irish medical practitioners as to the provision of medical benefits under the Insurance Bill in Ireland. It is argued that if the Bill applies to Ireland at all the medical benefits given should be on the same terms as in Great Britain, though adjustment may be necessary to meet the case of the Irish Dispensary Medical Service. The Irish medical profession, it is stated, now withdraws any demand for a rate of remuneration to be fixed in the Bill, and will accept the view "that the terms of remuneration must depend entirely on the amount and nature of the work and other conditions of service." The well-reasoned letter considers the attitude of the Chancellor of the Exchequer, in having excluded Ireland from medical benefits, to be due to political expediency, and urges Mr. Redmond to remember the grave defects in the existing Irish Dispensary Service.

### THE CONJOINT VIEW OF THE BRITISH AND IRISH MEDICAL ASSOCIATIONS.

At a meeting of the Conjoint Committee of the British and Irish Medical Associations, held last week, the following resolutions were passed:—

This Conjoint Committee approves of the restoration of medical benefit for Ireland, and on behalf of the profession in Ireland are prepared to accept the Bill under the same conditions as in Great Britain. We protest against the compulsory imposition of any duties under the Act on the Poor-law medical officers. It should be the object of wise statesmanship to emancipate the industrial classes from the Poor-law with the degrading effects on their moral and self-respect that come from charitable relief. Medical benefits administered on the conditions we desire would go far to accomplish this.

We strongly deprecate any suggestions that it is the duty of the profession, either as a whole or by any section of its members, to draft the scheme by which medical benefit may be applied to Ireland. The Irish professions are not more unreasonable than their English brethren, and we are convinced that if the same terms are offered in Ireland as in England they will be accepted. As Irishmen we protest against any attempt to treat Irish doctors with less justice and fairness than English doctors are treated under the Bill; we also protest, and if possible more strongly, against the imputation that in making our demands we are actuated by greed, rapacity, or a desire to wreck the Insurance Bill. This committee offers to afford any assistance in its power in consultation with any Members of Parliament or others who in an official capacity are concerned in formulating proposals for the restoration of medical benefits to the Bill.

### THE FEELING IN NORTHERN IRELAND.

At a meeting in Londonderry on Nov. 22nd of the medical practitioners of the North-West of Ireland, the following resolution was unanimously passed:—

That we, the doctors of Londonderry and Donegal, are of opinion that the medical benefits under the Insurance Bill should be extended to Ireland on the same terms as may be acceptable to the profession in England.

The Belfast Trades Council has issued a circular, which has been forwarded to local trades unions, Irish trades councils, and public health authorities, strongly protesting against the exclusion of medical benefits from Ireland. A deputation, it is said in this document, representing 60,000 trade unionists, waited on Mr. Lloyd George at the House of Commons, and protested against the exclusion of Ireland from medical benefits, and the trades councils of Dublin, Limerick, and Belfast have constantly been urging the retention of Ireland under the full scheme. "The proposed exclusion," the circular says, "is to be made in favour of the Irish dispensary system, which, as you are aware, is controlled by medical men who have gained their experience in workhouses, and are appointed by boards of guardians, who are usually influenced in their selection by reasons entirely unconnected with the humane character or ability of the candidates. If this system, condemned by all recent investigation, is not good enough for England, Scotland, or Wales, why should the Irish party or Mr. Lloyd George consider it good enough for Ireland? We believe the dispensary system tends to perpetuate pauperism and degrades the Irish people." In this document it is also urgently pressed that unemployment insurance should apply to Ireland, with all fair and necessary modifications to suit the agricultural portion of the people. It is also suggested to hold public meetings and press Parliament on these lines.

It is clear now that the profession in Ireland wish for the inclusion of medical benefits on the same conditions as in England, for they see that unless this is done the alternative is club practice of the worst kind, but whether this will be allowed seems to depend on which politician has his way among the Nationalist Members. The abuse of the hard-worked dispensary medical officers should not have been published.

### THE NATIONAL INSURANCE BILL AND THE HOSPITALS OF LONDON.

At a meeting of the Central Hospital Council for London, held at St. Thomas's Hospital on Nov. 23rd, the effect upon the voluntary hospitals of the passing of the National Insurance Bill as it stands at present was considered, and it was unanimously agreed—

1. That the effect upon the voluntary hospitals must be to diminish their income very seriously, and consequently to lessen the number of beds they will be able to maintain, as well as gravely to impair their efficiency as curative institutions, schools of medicine, and training schools for nurses.

2. That the National Insurance Bill will be incomplete until it provides for the hospital treatment which insured persons must have if their medical needs are to be covered at all adequately by the Bill.

### THE POSITION OF CERTIFICATED DISPENSERS.

An important deputation representing the Society of Apothecaries and the Association of Certificated Dispensers waited upon the Attorney-General in his private room at the House of Commons on Thursday, Nov. 23rd, in order to urge the adoption of certain amendments to the Bill for the purpose of protecting the interests of persons holding the certificate in dispensing. The deputation received the most satisfactory assurances from Sir Rufus Isaacs that the Government had no intention of allowing the provisions of the Bill to prejudice the interests of the society's dispensers, and while agreeing that Clause 14 as at present amended in committee was unsatisfactory in this respect, undertook that the measure should be so further amended that these rights were fully protected.

# Public Health.

## ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH FOR 1910.

*Rhondda Urban District.*[1]—In the Rhondda Valley there is progress, though it be but slow progress. It is a large district composed of narrow valleys, where there have been much overcrowding, a high death-rate, and other unsatisfactory conditions. But, nevertheless, the death-rate is not so high as it used to be, and more houses have come into existence, though this is not a locality likely to tempt the builder. Numerous bench-marks taken throughout the area show that during the last 12 years the whole district has sunk. In many localities this subsidence amounts to 5 feet and more, the maximum being 7·95 feet at Llwynypia. This naturally endangers the stability of buildings and may cause the breaking asunder of water-mains, sewers, and pipes of different sorts. While the rapid development of the mining industry, in which 69 per cent. of the males above 10 years of age are engaged, helps to produce this subsidence of the soil, it has attracted a large working-class population, all needing dwelling-houses. Thus we are told that in 1871 there were only 3872 houses, there are now 26,000 houses. They are nearly all small cottages, with three bedrooms, a kitchen, and a parlour. At the Census of 1901 the average population was 5·92 per house, and the hope is now entertained that this average has fallen to about 5·8; this, if not much of an improvement, is a change in the right direction. The reduction in the death-rate is far more satisfactory, as the average for the ten years 1890–99 was 21·1; for the years 1900–09 only 18·4, and for the year 1910 we have a still further decrease to 15·7 per 1000 of the population. The infantile mortality is 56 per 1000 less than the average of the last 20 years, but it still amounts to 136 per 1000. This is the figure for 1910, while that for the 77 great towns was 115, and for England and Wales 106 per 1000. Thus the state of affairs in the Rhondda valley is still very unsatisfactory. The report expresses great satisfaction with the services rendered in checking infantile mortality by the two lady inspectors, who teach mothers how to wash and feed infants, while informing the authorities if there is anything insanitary in or about the dwellings. The difficulty of disposing of household refuse adds to any unwholesome conditions. There is but one destructor, which cannot consume more than 16 tons of refuse per day, and this at the rather elevated cost of 1*s.* 9*d.* per ton. But there are 200 cartloads of refuse collected daily, and therefore most of this is thrown down the 11 refuse tips scattered throughout the urban district. There it rots and ferments and creates unwholesome conditions which are likely to cause trouble in the future. Power for a scheme, however, has been sought to deal with this important matter. Dr. J. D. Jenkins has undoubtedly a busy task in watching over so scattered a district, where there are several exceptionally difficult problems to solve.

*Glamorgan County.*—Dr. David J. Morgan only came into office in April, 1910, so that the present report is based to a large extent on the work of his predecessor, Dr. W. Williams. The administrative county consists of 19 urban and eight rural districts, with a population of over 700,000 and a death-rate of 13·97 per 1000. The infantile mortality was equal to 125 per 1000 births registered. The highest was 151 at Aberdare, and the lowest 64 at Penarth. The overcrowding in the industrial districts is considered one of the principal causes of this evil, and the sanitary and educational authorities alone cannot accomplish all that is necessary. A separate chapter is devoted to each of the urban and rural districts into which the county is divided, and it would require much time and space to deal with them all. On reading over the various complaints made and the enumeration of the many requirements that have to be satisfied before the sanitary conditions can be considered perfect, it seems quite evident that these places are too small to carry out all the public works they need. There are the disposal of sewage and the prevention of the pollution of rivers; then come the house refuse problem and the slaughter-house difficulty. Obviously many of these districts should unite and share the cost of one central establishment between them. It is to be noticed that in most places complaints are made about the slaughter-houses, and where no complaint is made we get a statement that is sometimes even more condemnatory. Thus for Neath borough, and though it has a population estimated at 17,000, we are just simply told that the slaughter-house "was visited weekly by the sanitary inspector." When we consider that no killing should be allowed except in the presence of a veterinary surgeon, what are we to say about this one visit a week, and that only by a sanitary inspector. With the aid of tramways small urban and rural districts can be brought into cheap, prompt, and easy communication one with another. Therefore one large public abattoir, with a proper staff of veterinary surgeons attached, might supply the needs of a very wide area. By thus uniting different districts there would be less difficulty in obtaining the necessary funds. Penarth, which has the record for a low infantile death-rate, has also a very low general death-rate—namely, 9·08 per 1000. The zymotic death-rate was only 0·49 per 1000, and there was no summer diarrhœa. The water-supply is described as soft, pure, constant. The sewers have large flushing tanks, and are stated to be in a good condition. The outfall is taken as far as low tide, and house refuse is removed at least three times a week. There are five private slaughter-houses; these are clean and constantly inspected. Still the medical officer of health urges that under such conditions the meat-supply cannot be properly controlled, and that the private slaughter-houses should be replaced by a public abattoir. In spite of this criticism, it will be seen that the sanitary conditions at Penarth are improving.

*Criccieth Urban District.*—The annual report of Dr. E. Lloyd Owen, medical officer of health for the Southern Division of the Carnarvonshire Combined Sanitary Districts, for the year ended Dec. 31st, 1910, is divided into three parts. Part 1 deals with the administration of the Factory and Workshops Act, 1901. Part 2 consists of four tables of statistics, viz.—Table I., Vital Statistics of the District for 1910 and the previous ten years; Table III., Cases of Infectious Diseases notified during the year; Table IV., Causes of, and Ages at, Death during the year; Table V., Infantile Mortality during the year; Deaths from stated causes in weeks and months under one year of age. Part 3 summarises the vital statistics and sanitary work for the period. The Criccieth urban district is situated in the Pwllheli Union, and Pwllheli registration district and in the Criccieth registration subdistrict, and has an area, exclusive of area covered by water, of 472 statute acres. The population, estimated to June, 1910, is 1402. In England and Wales the birth-rate, death-rate, and infantile mortality were 24·8, 13·4, and 106 respectively, each of these being the lowest on record. Dr. Lloyd Owen's report shows a birth-rate of 8·55 per 1000 of population, which was lower by 16·25 than that in England and Wales, lower by 9·98 than that in the previous year, and lower by 10·95 than the average rate in the preceding 10 years. The death-rate, 12·12, however, is lower by 1·28 than that in England and Wales, and by 3·78 than the average rate in the preceding 10 years.

[1] See also THE LANCET, Sept. 2nd, 1911, p. 726.

# VITAL STATISTICS.

## HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns, having an estimated population of 16,157,797 persons in the middle of this year, 7463 births and 4388 deaths were registered during the week ending Nov. 25th. The annual rate of mortality in these towns, which had been 13·5, 13·1, and 13·9 in the three preceding weeks, further rose to 14·2 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual rate of mortality in these towns averaged 14·1 per 1000, while the average death-rate in London during the same period did not exceed 13·7. The death-rates in the 77 towns last week ranged from 4·9 in Hornsey, 6·2 in Newport (Mon.), 6·6 in Wallasey, and 7·3 in Barrow-in-Furness, to 19·3 in Wigan, 20·1 in Burnley, 20|·6 in West Bromwich, and 22·0 in Stockton-on-Tees. The 4388 deaths from all causes in the 77 towns were 69 in excess of the number registered in the preceding week, and included 259 which were referred to the principal epidemic diseases, against numbers steadily decreasing from 2900 to 267 in the 13 preceding weeks. Of these 259 deaths, 73 resulted from infantile diarrhœa, 61 from diphtheria, 44 from measles, 32

from whooping-cough, 29 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week did not exceed 0·8 per 1000, and was the lowest death-rate from these diseases recorded in any week of the current year. The deaths of infants under two years of age attributed to diarrhœa, which had steadily declined from 2714 to 76 in the 13 preceding weeks, further fell to 73 last week, and included 24 in London and its suburban districts, 4 each in Stoke-on-Trent, in Birmingham, and in Cardiff, and 3 each in Liverpool, in Bolton, in Manchester, and in Oldham. The deaths referred to diphtheria, which had increased from 46 to 64 in the four preceding weeks, declined to 61 last week; 21 deaths were recorded in London and its suburban districts, 5 in Leeds, and 3 each in Stoke-on-Trent, in Bolton, and in Bradford. The fatal cases of measles, which had been 36, 37, and 51 in the three previous weeks, declined to 44 last week, and of this number 9 were registered in London, 4 each in Nottingham, in Salford, and in Burnley, 3 in Wolverhampton, and 3 in West Bromwich. The 32 deaths assigned to whooping-cough were 1 in excess of the number in the preceding week, and included 9 in London and its suburban districts, 6 in Birmingham, 2 in Smethwick, and 2 in Liverpool. The deaths attributed to scarlet fever, which had declined from 30 to 21 in the three preceding weeks, rose again to 29 last week; 4 deaths occurred in Stoke-on-Trent, 3 in London, and 2 each in Birmingham, Liverpool, Sheffield, Hull, and Newport, Mon. The 20 deaths referred to enteric fever were 4 less than the number recorded in each of the two previous weeks, and included 6 in London and its suburban districts, and 2 each in Birmingham, Leeds, and Newcastle-on-Tyne. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily increased from 1327 to 2213 in the 12 preceding weeks, declined to 2166 on Saturday last; 203 new cases of this disease were admitted to these hospitals during the week, against 269, 292, and 291 in the three preceding weeks. These hospitals also contained on Saturday last 1311 cases of diphtheria, 171 of whooping-cough, 101 of enteric fever, and 73 of measles. The 1146 deaths from all causes in London last week were 18 in excess of the number in the previous week, and included 243 which were referred to diseases of the respiratory system, against 170, 196, and 224 in the three previous weeks. The deaths attributed to different forms of violence in the 77 towns, which had been 144, 136, and 167 in the three preceding weeks, declined to 158 last week, and 374 inquest cases were registered. The causes of 33, or 0·8 per cent., of the deaths registered in the 77 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bradford, Hull, Nottingham, Portsmouth, and in 56 other smaller towns. The 33 uncertified causes of death last week included 7 in Birmingham, 6 in Liverpool, 5 in London, 3 in South Shields, and 3 in Gateshead.

### HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of this year, 767 births and 548 deaths were registered during the week ending Nov. 25th. The annual rate of mortality in these towns, which had been 16·3 and 18·6 in the two preceding weeks, declined to 16·7 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 16·5 per 1000, and was 2·4 per 1000 above the mean rate during the same period in the 77 large English towns. The annual death-rates in the several Scotch towns last week ranged from 10·3 and 10·5 in Leith and in Paisley to 18·8 in Glasgow and in Aberdeen. The 548 deaths from all causes were 63 fewer than the number in the previous week, and included 63 which were referred to the principal epidemic diseases, against 48 and 65 in the two preceding weeks; of these 63 deaths, 23 resulted from measles, 16 from diarrhœal diseases, 7 from scarlet fever, 7 from whooping-cough, 7 from diphtheria, 2 from enteric fever, and 1 from typhus fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 1·9 per 1000, and was 1·1 per 1000 above the mean rate from the same diseases in the 77 large English towns. The deaths referred to measles, which had steadily increased from 1 to 28 in the eight preceding weeks, declined to 23 last week, and comprised 14 in Aberdeen, 7 in Glasgow, and 2 in Greenock. The deaths attributed to diarrhœal diseases, which had been 12, 9, and 19 in the three previous weeks, fell last week to 16, all but one of which related to children under two years of age; 5 deaths were recorded in Glasgow, 4 in Edinburgh, 3 in Dundee, and 2 in Greenock. The 7 fatal cases of scarlet fever were 4 in excess of the average in the three preceding weeks, and included 3 deaths in Glasgow. The deaths assigned to whooping-cough, which had been 11, 14, and 8 in the three previous weeks, slightly fell to 7 last week, and comprised 4 in Glasgow, 2 in Aberdeen, and 1 in Edinburgh. The deaths referred to diphtheria, which had been 9 and 4 in the two preceding weeks, rose to 7 last week, and included 4 in Glasgow, 2 in Dundee, and 1 in Greenock. The 2 fatal cases of enteric fever and also that of typhus fever were registered in Glasgow. The deaths referred to diseases of the respiratory system, which had been 116, 108, and 144 in the three preceding weeks, declined to 113 last week, and was 25 below the number in the corresponding week of last year. Of the 548 deaths from all causes in the Scotch towns last week, 165, or 30 per cent., were recorded in public institutions, and 31 were attributed to different forms of violence. The causes of 24, or 4·4 per cent., of the deaths in the eight towns in the week under notice were not certified or not specified; in the 77 large English towns the proportion of uncertified causes did not exceed 0·8 per cent.

### HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of this year, 534 births and 396 deaths were registered during the week ending Nov. 25th. The annual rate of mortality in these towns, which had increased from 17·1 to 19·0 in the four preceding weeks, declined to 18·0 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Irish towns averaged 18·3 per 1000; in the 77 large English towns the mean annual death-rate during the same period did not exceed 14·1 per 1000, while in the eight Scotch towns it was equal to 16·5. The annual death-rate last week was equal to 20·3 in Dublin (against 13·2 in London), 17·3 in Belfast, 17·7 in Cork, 5·1 in Londonderry, 10·9 in Limerick, and 15·2 in Waterford; whilst in the 16 smallest of these Irish towns the annual death-rate was equal to 19·3 per 1000. The 396 deaths from all causes were 23 fewer than the number in the previous week, and included 44 which were referred to the principal epidemic diseases, against 33 and 47 in the two preceding weeks; of these 44 deaths, 19 resulted from diarrhœal diseases, 11 from whooping-cough, 5 from scarlet fever, 4 from measles, 3 from enteric fever, and 2 from diphtheria, but not one from small-pox. These 44 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·0 per 1000; in the 77 English towns the mean annual death-rate from these diseases last week did not exceed 0·8 per 1000, while in the eight Scotch towns it was equal to 1·9. The deaths attributed to diarrhœal diseases, which had been 24, 9, and 19 in the three preceding weeks, were again 19 last week, and with one exception related to children under 2 years of age; 7 deaths were recorded in Dublin, 7 in Belfast, and 3 in Cork. The deaths referred to whooping-cough, which had been 2 and 5 in the two previous weeks, rose to 11 last week, and included 5 in Belfast, 3 in Dublin, and 2 in Lurgan. The 5 fatal cases of scarlet fever were slightly in excess of the average in recent weeks, and comprised 2 in Dublin, 2 in Belfast, and 1 in Waterford. The deaths assigned to measles, which had been 9 and 8 in the two preceding weeks, further declined last week to 4, and were all registered in Dublin. Two of the fatal cases of enteric fever were recorded in Dublin and 1 in Newry. The 2 deaths referred to diphtheria occurred in Newry and Sligo respectively. The deaths referred to diseases of the respiratory system, which had been 77, 75, and 73 in the three preceding weeks, rose to 78 last week. Of the 396 deaths from all causes in the Irish towns last week, 138, or 35 per cent., were recorded in public institutions, and 13 were attributed

to different forms of violence. The causes of 14, or 3·5 per cent., of the deaths in the 22 towns in the week under notice were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes last week did not exceed 0·8 per cent. in the 77 large English towns, but was equal to 4·4 per cent. in the eight Scotch towns.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE undermentioned surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's Fleet: Walter Perceval Yetts, Thomas Dixon Liddle, Norman Sinclair Meiklejohn, William Perceval Hingston, Reginald Hugh St. Bernard Ellis Hughes, Frederick Morton Vincent Smith, Arthur Henry Sims Richardson, George Herbert Stephens Milln, Edward Bryan Kenny, Arthur Reginald Schofield, Francis Jollie Gowans, Evelyn Richard Townsend, James Campbell Bringan, Guy Leslie Buckeridge, Arthur Dillon Croker Cummins, Thomas Walter Jeffery, Palmer Devoy Ramsay, Edward Postle Gwyn Causton, George Deleval Walsh, James Ernest Johnston, and Bertram Raleigh Bickford (dated Nov. 23rd, 1911).

### ARMY MEDICAL SERVICE.

Colonel Sir David Bruce, C.B., is seconded for service under the Colonial Office (dated Nov. 9th, 1911). Lieutenant-Colonel William W. Pike, D.S.O., from the Royal Army Medical Corps, to be Colonel, vice Sir D. Bruce, C.B., seconded (dated Nov. 9th, 1911).

### ROYAL ARMY MEDICAL CORPS.

Major David Harvey is seconded for service under the Colonial Office (dated Nov. 9th, 1911).

Lieutenant-Colonel J. M. Irwin, senior medical officer at Tientsin, has been appointed Principal Medical Officer of South China, with headquarters at Hong-Kong, vice Colonel W. G. A. Bedford, C.M.G., transferred to the London District as Principal Medical Officer. Lieutenant-Colonel H. L. Battersby, from Bodmin, has been appointed to the Medical Charge of the Royal Horse Artillery Batteries at Ipswich. Lieutenant-Colonel E. Davis has taken up duty in Medical Charge at St. Peter's, Jersey. Lieutenant-Colonel A. Dodd, senior medical officer at Chester, has been removed from the roster for foreign service. Lieutenant-Colonel J. C. Morgan has taken over charge of the Military Hospital at Glasgow. Lieutenant-Colonel A. E. Tate has been selected to command the Station Hospital at Rawal Pindi, vice Lieutenant-Colonel M. O. D. Braddell, tour expired. Lieutenant-Colonel R. L. R. MacLeod, from Aden, has been appointed for duty on board the troopship s.s. *Plassy*, which left Bombay on Nov. 9th for Southampton. Lieutenant-Colonel J. J. C. Donnet, in medical charge of the Military Hospital at Belfast, has taken up duty as Senior Medical Officer at Singapore, vice Lieutenant-Colonel H. J. Barratt, who has been transferred to India. Lieutenant-Colonel F. H. M. Burton has been placed under orders for transfer from Colchester to Warley to fill the vacancy caused by the retirement of Lieutenant-Colonel T. W. O'H. Hamilton. Major R. J. Copeland has been transferred from Darjeeling to the Station Hospital at Meerut Cantonment. Major B. Forde, from Aldershot, has taken over the medical charge at Deepcut. Major A. Chopping, staff surgeon at Cherat, has been placed under orders to proceed home, tour expired, from India on the troopship s.s. *Rewa*, leaving Karachi on Dec. 9th. Major F. Smith, D.S.O., sanitary officer of the Second (Rawal Pindi) Division, has taken over charge of the Station Hospital at Calcutta, vice Lieutenant-Colonel T. McCulloch. Major H. O. B. Browne-Mason has been appointed Specialist in Dermatology and Venereal Diseases to the Sixth (Poona) Division. Major H. K. Palmer, specialist in advanced operative surgery at Meerut, has been granted six months' leave of absence. Major E. W. Slayter has been appointed to command the Station Hospital at Mount Abu for a period of two years. Captain R. R. Argles, from Lahore, has been detailed for duty on board the troopship ss. *Plassy*, which left Bombay for Southampton on Nov. 9th. Captain B. B. Hole, from Cosham, has joined the Scottish Command for duty as Adjutant of the Royal Army Medical Corps School of Instruction, Lowland Division. Captain A. F. Carlyon, from Devonport, has embarked for a tour of service at Mauritius. Captain W. J. Waters has taken up duty in North China. The leave of absence home from India granted to Captain H. W. Farebrother has been extended on the recommendation of a medical board. Captain A. J. Williamson, specialist in advanced operative surgery, from Woolwich, has embarked for a tour of service at Singapore. Captain R. C. Wilson, in charge of the Military Families Hospital at Netley, has been placed under orders for a tour of service at Gibraltar. Captain R. H. MacNichol, specialist in dermatology and venereal diseases, has taken over charge of the Military Hospital at Northampton during the absence on leave of Lieutenant-Colonel W. S. Dowman. Captain R. J. B. Buchanan has been selected for appointment as Clinical Pathologist to the Alexandra Hospital at Cosham. Captain F. W. W. Dawson has been detailed for a tour of service with the Third (Lahore) Division, Northern Army in India. Captain G. B. F. Churchill has been granted one year's extension of service in India. Captain F. E. Rowan-Robinson has been granted one month's leave of absence prior to embarkation for duty in Bermuda. Captain P. G. Hyde has joined for duty at Ceylon. Captain R. N. Woodley has been transferred from Bulford Camp, Salisbury Plain, to the Military Hospital at Cardiff. Captain J. M. M. Crawford, from Colchester, has taken up duty at Ipswich as Adjutant of the Royal Army Medical Corps School of Instruction, East Anglian Division, in succession to Major W. A. Woodside, under orders for India. Lieutenant M. White, from Bordon, has embarked for duty with the Eighth (Lucknow) Division, Northern Army in India. Lieutenant P. G. M. Elvery, from Cairo, has taken up duty at Cyprus. Lieutenant J. K. Gaunt, from Lisnagar Camp, has been appointed to Fermoy. Lieutenant W. P. MacArthur, from Aldershot, has embarked for a tour of service in Mauritius. Lieutenant A. T. J. McCreery, from the Station Hospital at Mhow, has been appointed for duty at Indore. Lieutenant C. T. V. Benson, at present serving at Aldershot, has been placed under orders for service in Burma.

### INDIAN MEDICAL SERVICE.

The King has approved of the promotion of Captain Edward Owen Thurston to Major (dated July 27th, 1911).

Colonel W. A. Corkery, Principal Medical Officer, Lahore Division, has been granted three months' leave of absence. The Lieutenant-Governor of the Punjab has been pleased to appoint Lieutenant-Colonel D. T. Lane to be a Civil Surgeon of the First Class in succession to Lieutenant-Colonel J. A. Cunningham. Lieutenant-Colonel B. C. Oldham, Bengal Presidency, has arrived home on leave of absence. Lieutenant-Colonel W. Ronaldson Clarke has been appointed Civil Surgeon at Lahore, and Professor of Forensic Medicine at the Government Medical College, Lahore, on return from privilege leave, relieving Captain H. C. Keates, transferred. Lieutenant-Colonel D. M. Davidson has been selected for appointment as Medical Officer in charge of the Punjab Central Camp in the Coronation Durbar at Delhi. Lieutenant-Colonel C. E. L. Gilbert has been granted four months' extension of his leave of absence home from India by the Right Honourable the Secretary of State on the recommendation of a Medical Board. The services of Lieutenant-Colonel B. B. Grayfoot have been replaced by the Home Department of the Government of India at the disposal of the Bombay Government. Lieutenant-Colonel A. W. T. Boist has been appointed a Civil Surgeon of the First Class. Lieutenant-Colonel W. H. Gray, Superintendent of the Central Prison at Benares, United Provinces, has been granted leave of absence from India for two years. Major F. D. Blenkinsop has embarked for India on the expiration of his leave. Major F. Wall has been granted furlough for one year. Major A. W. R. Cochrane, superintendent of the lunatic asylum at Agra, has been granted six months' leave of absence. Major C. E. Williams, Bengal Presidency, has received an extension of his leave. Major H. Bennett has been appointed to officiate as a Civil Surgeon of the First Class, *vice* Lieutenant-Colonel C. T. Hudson, on leave. His Excellency the Governor of Bombay, in Council, has been pleased to appoint Major G. E. Stewart to officiate as Civil Surgeon at Dhulia, in succession to Captain R. F. Steel. Captain G. Holroyd has been selected to officiate as Superintendent of the Central Jail at Bhagalpur, in succession to Major J. M. Woolley, appointed Senior

Medical Officer at Port Blair. Captain S. H. Lee Abbott and Captain J. G. G. Swan have been appointed Civil Surgeons of the Second Class. Subsequent on the transfer of Colonel H. Hendley to the Military Department, Captain H. C. Buckley has been appointed Plague Medical Officer at Rohtak, on transfer from special duty under the Government of India. Captain E. T. Harris has been granted four months' extension of his leave of absence. Captain E. A. Roberts and Captain J. F. James have embarked for India. Captain H. C. Keates has been selected for appointment as Civil Surgeon at Jullundur. Captain J. M. A. Macmillan, civil surgeon at Hoshangabad, has been appointed to the medical and sanitary charge of the Central Provinces Camps at the Delhi Coronation Durbar. Lieutenant P. B. Bharucha has been appointed Surgical Specialist to the Second (Rawal Pindi) Division in succession to Lieutenant C. H. Smith.

SPECIAL RESERVE OF OFFICERS.

*Royal Army Medical Corps.*

Lieutenant Charles H. Carlton is confirmed in his rank.

TERRITORIAL FORCE.

*Royal Engineers.*

5th and 6th Battalions, The Royal Warwickshire Regiment: Surgeon-Captain George H. E. Bekenn resigns his commission (dated Nov. 25th, 1911).

*Royal Army Medical Corps.*

1st West Lancashire Field Ambulance, Royal Army Medical Corps: The undermentioned officers to be Captains (dated Oct. 1st, 1911):—Lieutenant John E. W. MacFall, Lieutenant Richard S. Taylor, Lieutenant Adam P. H. Simpson.

2nd West Lancashire Field Ambulance, Royal Army Medical Corps: The undermentioned officers to be Captains (dated Oct. 1st, 1911):—Lieutenant Charles S. Brebner, Lieutenant Walker L. Hawksley, and Lieutenant William Macdonald.

2nd Northumbrian Field Ambulance, Royal Army Medical Corps: Lieutenant James D. Sinclair to be Captain (dated Oct. 1st, 1911).

3rd West Riding Field Ambulance, Royal Army Medical Corps: The undermentioned officers to be Captains:—Lieutenant John W. Stokes (dated Oct. 1st, 1911), Lieutenant James Mackinnon (dated Oct. 1st, 1911), Lieutenant Ernest F. Finch (dated Oct. 6th, 1911), Lieutenant Charles G. Murray (dated Oct. 10th, 1911), and Lieutenant Edward F. Skinner (dated Oct. 11th, 1911).

3rd Wessex Field Ambulance, Royal Army Medical Corps: Lieutenant John A. Swindale resigns his commission (dated Nov. 25th, 1911).

2nd Scottish General Hospital, Royal Army Medical Corps: Major Robert W. Philip to be Lieutenant-Colonel (dated Sept. 15th, 1911). Captain Francis D. Boyd, C.M.G., to be Major (dated Sept. 15th, 1911). John William Simpson to be Captain (dated Sept. 15th, 1911).

*Attached to Units other than Medical Units.*—Major and Honorary Surgeon-Lieutenant-Colonel Duncan Stewart resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated Nov. 25th, 1911).

*For Attachment to Units other than Medical Units.*—Geoffrey Balmanno Fleming to be Lieutenant (dated Sept. 22nd, 1911).

*Supernumerary for Service with the Officers Training Corps.*—Captain Henry Buckley Roderick, from the Unattached List for the Territorial Force, to be Captain, with precedence as on the Unattached List, for service with the medical unit of Cambridge University Contingent, Senior Division, Officers Training Corps (dated Nov. 25th, 1911). Captain William Duncan Sturrock, from the Unattached List for the Territorial Force, to be Captain, with precedence as on the Unattached List, for service with the medical unit of the Oxford University Contingent, Senior Division, Officers Training Corps (dated Nov. 25th, 1911). Lieutenant Rudolf Albert Peters, from the List of Officers of the Royal Army Medical Corps attached to units other than medical units, to be Lieutenant (on probation), with precedence as in the Territorial Force, for service with the medical unit of the Cambridge University Contingent, Senior Division, Officers Training Corps (dated Nov. 25th, 1911). Andrew Francis Dixon to be Lieutenant, for service with the medical unit of Dublin University Contingent, Senior Division, Officers Training Corps (dated Sept. 23rd, 1910). Thomas Thomson to be Lieutenant, for service with the Royal College of Surgeons in Ireland Contingent, Senior Division, Officers Training Corps (dated April 7th, 1911). Henry Stokes to be Lieutenant, for service with the Royal College of Surgeons in Ireland Contingent, Senior Divison, Officers Training Corps (dated April 29th, 1911). William James Wilson to be Lieutenant, for service with the medical unit of the Belfast University Contingent, Senior Division, Officers Training Corps (dated May 25th, 1911).

*Officers Training Corps.*

Oxford University Contingent, Senior Division, Officers Training Corps: Lieutenant William D. Sturrock to be Captain (dated Oct. 26th, 1911).

*Yeomanry.*

Northumberland (Hussars) Yeomanry: Surgeon-Lieutenant Hamilton Drummond resigns his commission (dated Nov. 25th, 1911).

THE ROYAL NAVAL VOLUNTEER RESERVE.

The regulations concerning medical officers in this service have just been issued. Candidates for entry must not be over 32 years of age, and if accepted will be enrolled with the rank of Surgeon. There are 8 fleet-surgeons, 22 staff-surgeons, and 120 surgeons in the service. Application for entry should be made to the Admiralty Volunteer Committee, Whitehall, S.W.

HEALTH OF THE UNITED STATES ARMY.

The report of the Surgeon-General of the United States Army for the year 1910, which has just been issued, contains much interesting matter. The figures relating to the admission of soldiers to army hospitals for alcoholism show that in 1910 the rate was 23·51 per 1000. In 1900 it was 25 per 1000. In the ten years before the establishment of the canteen the average rate of admission was 55 per 1000; it fell to an average of 26 per 1000 while the canteen existed, and rose to 28 per 1000 in the ten years following its abolition. The improvement in the alcoholic rate began before the establishment of the canteen and continued during the greater part of the canteen period, in correspondence with the general progress of temperance. It would probably have been sustained but for the abolition of the canteen, which destroyed the attractiveness of the soldier's club and drove him outside for amusement, where he was tempted to drink strong drinks to excess in place of mild fermented liquors in moderation. 16,093 vaccinations against typhoid fever took place. The outstanding feature of the report in regard to anti-typhoid vaccination is the fact that only three of the vaccinated men became infected with typhoid fever. The disease in each case ran a mild course and recovery was rapid. The vital statistics indicate a steady improvement in the health of the soldiers. The ratios were 596·54 admissions to hospital, 3·4 deaths, and 28·35 rendered non-effective per 1000 in 1910, as compared with 628·91, 4·20, and 30·27 per 1000 respectively in 1909. The mean strength of officers was 4416, of which number 37, or 8·38 per 1000, were retired for disabilities in 1910, as compared with 19·21 for 1909. The mean strength of rank and file for 1910 is given as 71,534, as compared with 74,319 for 1909, and the discharge-rate for disability was 14·02 per 1000.

HOSPITAL ALMONERS' COUNCIL.—The inaugural meeting of the newly constituted Hospital Almoners' Council was held at Caxton Hall on Nov. 24th, the Bishop of Stepney, Vice-President, being in the chair. The Council has considerably increased its membership, and now includes 16 representatives of the governing bodies and medical staffs of 12 London hospitals. The heads of women's colleges in Oxford, London, and Dublin have also joined the Council, together with hospital almoners working in London, and others interested in the movement. The Council will continue to select and train women for almoners' posts, and to recommend them to hospitals. At the meeting a constitution was adopted and an executive committee was chosen. The speakers were Mr. C. S. Loch (the founder of the movement), Sir Edward Brabrook (Vice-President), Dr. R. Hutchison, Dr. T. W. Eden, and Dr. A. Chas E. Gray (former chairman of the Council). All communications with regard to this excellent work should be addressed to Mr. Edgar S. Kemp, at Denison House, 296, Vauxhall Bridge-road, London, S.W.

# Correspondence.

"Audi alteram partem."

## BICENTENARY OF THE SCHOOL OF PHYSIC OF IRELAND: JUNE, 1912.

*To the Editor of* THE LANCET.

SIR,—We are asked to draw attention to the proposed celebration of the bicentenary of the School of Physic in Ireland. This school, better known now as the Medical School of Trinity College, Dublin University, was founded early in the eighteenth century under the joint control of the University and the King and Queen's College of Physicians. The management of the school has been for some time past practically altogether in the hands of the Universities authorities, but the school still retains its old name and some of its most important professors are appointed by the College of Physicians.

A provisional committee has been appointed to make arrangements for the celebrations to be held at the end of June, 1912, and this committee is most anxious to receive suggestions from graduates who are willing to coöperate. A graduates committee will shortly be formed, and those who are willing to become members are invited to send in their names. The provisional committee is most anxious to receive loans of documents or other objects of interest which may illustrate the history of the school, and will be glad to hear from anyone who may possess such objects. All who are willing to assist are requested to communicate with any of the undersigned.

We are, Sir, yours faithfully,

JAMES LITTLE, M.D. Edin.,
Regius Professor of Physic.
CHARLES BALL,
Regius Professor of Surgery.
A. C. O'SULLIVAN, F.T.C.D.,
University Lecturer in Pathology.
W. H. THOMPSON, M.D. R.U.I.,
King's Professor of the Institutes of Medicine.
JAMES CRAIG, M.D. Dub.,
King's Professor of the Practice of Medicine.
T. PERCY C. KIRKPATRICK, M.D. Dub.,
A. FRANCIS DIXON, Sc.D. Dub.,
University Professor of Anatomy.

Nov. 27th, 1911.

## THE NATIONAL INSURANCE BILL.

*To the Editor of* THE LANCET.

SIR,—At a largely attended meeting of the West Croydon and District Medico-Ethical Society the following resolution was agreed to unanimously, and I was instructed to forward the same to you for insertion in THE LANCET:—

That this meeting refuses to act under the Insurance Bill unless the six cardinal points are definitely and emphatically conceded. It further is of opinion that payment *per capita* is absolutely undesirable, and it will only consider the scheme if payment per attendance on satisfactory terms is guaranteed by the Local Health Committee. And, further, it is also of opinion that the medical representation on the Local Health Committee, as at present suggested, is altogether insufficient.

I am, Sir, yours faithfully,
WILLIAM V. BRADDON, Hon. Secretary.

Thornton Heath, Nov. 22nd, 1911.

*** We have received a large number of letters from medical men registering disapproval of the National Insurance Bill upon one or other of the many counts familiar to all our readers, as well as communications from local correspondents (see p. 1581). These confirm us for different reasons in the opinions expressed in our leading article.—ED. L.

## THE CAUSE OF CANCER.

*To the Editor of* THE LANCET.

SIR,—Having regard to the views and claims advanced by Sir Henry Butlin in his recent lectures I am induced to invite his and his readers' attention to the thesis I put forward on this question so long ago as 1888 (THE LANCET, August 25th, p. 395, "In what does Cancer Consist?"), and more recently in the *British Medical Journal* of Dec. 26th, 1903. These views have received corroboration by the work of Messrs. Farmer, Moore, and Walker, published in the Proceedings of the Royal Society, 1903, wherein reference is made to my suggestions of 23 years ago.

I am, Sir, yours faithfully,
WILLIAM J. COLLINS.

Albert-terrace, Regent's Park, N.W., Nov. 27th, 1911.

## MINER'S PHTHISIS.

*To the Editor of* THE LANCET.

SIR,—"Sooner or later every worker underground on these mines will contract miner's phthisis." These words were uttered before a representative meeting of mining engineers in Johannesburg on Sept. 9th, 1911, by Mr. Koetze, the Government mining engineer.

The number of white workers roughly at the present time going below is about 12,000 and the black about 150,000. The death-rate at the present time is appalling. What will it be in a few years? I refer your readers to the following paragraph in a letter from the well-known consulting engineer, Mr. E. J. Moynihan:—

The Mining Regulations Commission (Transvaal) of 1907-1910, of which Dr. Porter, M.O.H., of Johannesburg, was the medical member, practically finished taking evidence in June, 1908. Its report was not signed till March, 1910; and not issued till August, 1910, more than two years after practically all the evidence was in. Part of the work of this commission was to investigate the health of mining employees. Their figures show a death-rate, from *all* forms of phthisis, of about 11 per 1000 for the underground men. That this is entirely below the mark and based on wholly insufficient inquiry and data is now proved by the experience of the present duplicate Commission appointed (1) to examine the miners' lungs, and (2) to award temporary compensation.

Since three men per day are putting in valid applications for compensation, and are, most of them, in the last extremity and have only recently left work, it is clear that there either now are, or will be in the very near future, 1000 deaths annually from miner's phthisis (silicosis). This corresponds to a silicosis death-rate among the underground white men (about 12,000 in number) of over 80 per 1000 annually. The disease is mainly prevalent among the "machine men" (rock-drillers) who form less than half of the underground white employees. The machine-men therefore have a death-rate, from silicosis only, of probably more than 140 per 1000. This is an understatement, in effect, of the real truth, because the number of machines in use has increased more than 75 per cent. in the last two years. A large proportion of the men have therefore been exposed to risk for too short a time to produce any sensible proportion of the deaths. If this fact be dealt with by a rough correction factor, the corrected death-rate for machine-men from this one disease alone would be well over 230 per 1000. Such a death-rate from a single occupational disease must be unparalleled in the whole industrial world. It can only be compared with King Leopold's Congo Free State.

It is with the view of bringing directly to the notice of the home Government and your readers the present very serious state of affairs that I have sent you this letter, which, though necessarily omitting many details, gives the facts up to date.

Some nine years ago a letter was forwarded to THE LANCET pointing out the grave danger of this disease. Acting upon this letter Mr. Chamberlain ordered an inquiry, and the Miner's Phthisis Commission of 1902 was appointed. The commission did its work well, established the cause of the disease, and pointed out the remedy. A feeble attempt on the part of the mine-owners to do something was the result, and nothing more. In 1908 another commission was formed with a like result. This year another commission has been promoted. Beyond the fact that the Government mining engineer is enabled to make the first statement in this letter, no good has accrued from any of these commissions. The chairman of the first commission and several members and witnesses are all dead from the disease. Each commission recommends the use of water to keep down the dust which causes the disease, the recommendations are urged upon the mine-owners, and with the same results in each case—utter callousness and neglect.

To-day we are faced with such a truly appalling state of affairs that it is a very pertinent question whether the whole gold industry of the Rand shall not be closed down until the mine-owners are prepared to put their mines in order and give guarantees for the future. In spite of all the protestations of the mine-owners to the contrary, those of us who are in a position to know can truly say that with one or two exceptions the water-supply to the mines is a sham and a farce not worthy of the name. The argument that men will not use the means given them has now been dispelled.

Upon the Nanse mines it has been proved that with a proper system of supervision men can be brought under discipline as well below ground as above. Yet knowing these facts days and weeks roll by, while the mine-owners are supposed to be considering the matter, and the Government ditto.

I regret to say that, however estimable these gentlemen may be in private life, their attitude with regard to putting their house in order is difficult to express in words. There is not an extenuating circumstance to be urged on their behalf. They, and they alone, can make a serious beginning of stopping this disease by adopting the system so successful in the Nanse mines. But, no; they will wait until public opinion or the Home Government forces the local government here to inflict the severest compensation measures upon them. These gentlemen will then appeal for mercy on the grounds that the industry will be ruined. These gentlemen won't do anything so foolish as to allow the industry to be ruined. We all know that imagination is very largely essential to the ruining of a gold mine, but I regret to say that only one argument appeals to the mine magnate in dealing with life preservation, and that argument is to make him pay.

I am, Sir, yours faithfully,

J. L. AYMARD, M.R.C.S. Eng., L.R.C.P. Lond.

Johannesburg, Sept. 19th, 1911.

## TWO RARE ABNORMALITIES OBSERVED IN THE COURSE OF OPERATIONS.

*To the Editor of* THE LANCET.

SIR,—In your issue of Nov. 18th Mr. J. D. Malcolm, drawing attention to a rare and interesting case under this title, characterised by a single mesentery and abnormal position of the large intestine, states that he believes that this condition has not been before described. I, however, reported a similar case in the *Durham College of Medicine Gazette* of March, 1908, and my drawing of the parts is exactly similar to that in Mr. Malcolm's article. Mr. Jonathan Hutchinson, in the *Clinical Journal*, June 5th, 1907, describes ten cases of complete volvulus of the intestine where also a somewhat similar arrangement of the mesentery existed, and I have also references to other examples. In these cases developmental rotation of the intestine had not occurred, resulting in an arrangement which is found in some of the pronograde animals. Apart from appendicitis arising on the left side, this disposition of the mesentery allows extensive volvulus to occur, the whole bowel from the duodenum to the descending colon being involved. In the case reported by me the volvulus was reduced, and the patient recovered. The further history of this patient has not been published, but two recurrences took place, both of which were relieved by abdominal section and reduction. This case was seen at the Royal Victoria Infirmary, Newcastle-on-Tyne, during my house surgeoncy.

I am, Sir, yours faithfully,

Newcastle-on-Tyne, Nov. 26th, 1911. FREDERICK C. PYBUS.

*To the Editor of* THE LANCET.

SIR,—I am much interested in Mr. John D. Malcolm's case of malposition of the large intestine as described under this title in THE LANCET of Nov. 18th, p. 1401. I have recently had a similar case, discovered during X ray examination after bismuth feeding in the routine investigation of an abdominal case of Mr. Moynihan. The cæcum was situated just above the symphysis pubis and a little to the left of the middle line. The colon ascended on the left side to a point about the level of the splenic flexure. The "transverse" colon was represented by a loop descending to the level of the umbilicus and rising again to the splenic flexure. The descending colon was normal in position.

In Mr. Malcolm's case no transverse colon is represented and it would be interesting to know if it was in the form of a loop as in my case. This could be easily decided by X ray investigation.

I am, Sir, yours faithfully,

LEO. A. ROWDEN, M.B., C.M. Glasg.

Leeds, Nov. 25th, 1911.

## SYPHILITIC AUTO-REINFECTION.

*To the Editor of* THE LANCET.

SIR,—Without wishing in any way to criticise the general tenour of Major French's recent Hunterian lectures on Syphilis—*quot homines, tot sententiæ*—I would like to draw attention to a statement on p. 1385 which, as quoted, is entirely misleading. He says: "Mr. McDonagh states that he has had 3 cases within the last 12 months of men early in the secondary stage cured by salvarsan return with a diffuse macular rash ..... which appeared a few weeks after the patient noticed the site of his original sore swell and become red." The crux of the whole argument is here omitted, and if the original be read (*British Medical Journal*, Sept. 23rd, 1911, p. 678) the following completes my sentence: "Which, by the way, is a very rare recurrent syphilide." I might even have been a little stronger, since I have never seen a case where six weeks after a swelling and redness of the chancre the patient developed a polyadenitis and a rash all over the body indistinguishable from the primary rash which had followed the chancre only a few months back. The explanation is simple. As a result of the "606" all the spirochætæ in the body have been destroyed except in the chancre, owing to the drug not having reached them in sufficient quantity; because they are shut up in fibrous, non-vascular tissue, a sequence of the induration. As a result of external irritation or because there are no antibodies present these imprisoned organisms "wake up," multiply, and are capable of giving rise to a fresh infection. This is a strong argument in favour of the advisability of excising a chancre which I have advocated for a long time, and also demonstrates that there is no such thing as absolute syphilitic immunity either to a foreign or a home virus. In consequence of there being no immunity the three patients referred to developed another general infection, as shown by the polyadenitis, macular rash, and reappearance of a positive Wassermann. Therefore, such cases are not relapses in the true sense of the word, and Major French could never have put them down as such, since he has probably never seen a similar case and admits that he has never used "606."

Excising the chancre and giving two intravenous injections of salvarsan before the Wassermann's reaction is positive—i.e., before the stage of general infection is reached—is practically a certain cure in my opinion. I have had 29 cases treated in this manner in the last 16 months, in which the Wassermann's reaction is still negative and the patients have been free from all symptoms. Surely this speaks for the efficiency of salvarsan—also mentioned in above number of *British Medical Journal* but omitted in Major French's lectures.

Last June I showed a case of auto-reinfection after a long period had elapsed since the primary infection at the Dermatological Section of the Royal Society of Medicine.[1] The patient contracted syphilis in 1905, and under mercurial treatment all the symptoms disappeared except the induration of the chancre. The induration persisted for six years when, as a result of irritation, erosions appeared on the surface, and six weeks later the glands of the body became enlarged. The patient was covered with a macular rash and had a sore throat. Contrary to the general belief, induration may persist for a considerable period irrespective of how much mercury the patient has had.—I am, Sir, yours faithfully,

J. E. R. MCDONAGH, F.R.C.S. Eng.

Harley-street, W., Nov. 24th, 1911.

## SPECIAL RETURN OF PAUPERS UNDER MEDICAL TREATMENT.

*To the Editor of* THE LANCET.

SIR,—Acting on behalf of the Council of the Poor-Law Medical Officers' Association of England and Wales I have approached the Local Government Board on the above subject.

May I ask you to give publicity to the enclosed copies of the correspondence?

I am, Sir, yours faithfully,

MAJOR GREENWOOD, Honorary Secretary.

[ENCLOSURE.]

34, Copthall-avenue, E.C., Nov. 11th.

Secretary, Local Government Board—

*Special Return of Paupers under Medical Treatment.*

SIR,—On Oct. 27th last a circular was issued by the Local Government Board to boards of guardians in England and Wales asking for a special return of paupers under medical treatment. In consequence, a request has been made by the clerks of the various unions to the district medical officers throughout the country to furnish a considerable number of details, at the cost of much time and labour.

It is generally thought throughout the Poor-Law Medical Service

[1] Proceedings of the Royal Society of Medicine, vol. x., No. 9, p. 129.

that some payment should be specially made for this work, as not appertaining to their official duties.

This matter is to be considered at a council meeting shortly to be held, and I should be greatly obliged if you could give me the following information. 1. In the opinion of the Local Government Board is the return referred to above comprised in the duties of Poor-law medical officers under Art. 205, Cons. Ord. July, 1847? 2. Would the Local Government Board be prepared to sanction a payment made by the guardians for this work?

Yours very obediently,
MAJOR GREENWOOD, M.D., LL.B., Hon. Sec.

Local Government Board, Whitehall, S.W.,
23rd November, 1911.

SIR,—I am directed by the Local Government Board to your letter of the 11th instant, with reference to the special return required by them in regard to paupers under treatment on the 4th November, 1911.

In reply I am directed to state that it appears to the Board that, under Article 205 (1) of the General Consolidated Order of the 24th July, 1847, it is the duty of a medical officer to furnish for the purpose of the return the requisite information respecting the case of any pauper who was under his care on the date in question.

I am to add that if in any particular case the guardians should be of opinion that an exceptional amount of work has been entailed upon the medical officer in connexion with the return, the Board would be prepared to consider an application from the guardians for their sanction to the payment of a reasonable gratuity.

I am, Sir, your obedient servant,
J. S. DAVY, Assistant Secretary.

Dr. Major Greenwood, Hon. Secretary,
Poor Law Medical Officers' Association,
34, Copthall-avenue, E.C.

## VENESECTION IN THE LIGHT OF RECENT RESEARCH.

*To the Editor of* THE LANCET.

SIR,—In this year's Harveian Oration by Dr. C. Theodore Williams interesting reference is made to the treatment of consumption by blood-letting under the distinguished physicians of a bygone time, who employed it in their own empirical way. There is also evidence to show that this method was then looked upon as a panacea for all the ills, and self-medication, by resort to it in the barbers' shops, must have been an everyday occurrence in the large towns of Europe. The practice is in vogue, during the autumn and the spring, in a few Eastern countries at the present day, among semi-civilised Mahomedan peoples, who still cling to the old method of inoculation as a prophylactic against small-pox—needless to add, without the least aseptic precautions. The method probably originated with the old Arabian school of medicine B.C. But it is due to the highly instructive and important paper by Dr. R. F. Fox, entitled "Cases Illustrating the Use of Venesection," which appears in THE LANCET of Nov. 4th, that I feel prompted to add the following brief contribution.

The scientific significance of this method was, I believe, first elucidated in this country by Professor Dryer, of Oxford, at the Royal Army Medical College, Millbank, in November, 1907, by an elaborate lecture on the subject, at which I was a privileged listener. Professor Dryer, who is a pupil and colleague of Schröder of Copenhagen, drew special attention on that occasion to an "acme point" being reached, during successive proportionate bleedings of the inoculated rabbits, while their bodily resistance increased, and after further bleedings fell.

In Dr. Fox's excellent illustrations of both acute and chronic specific diseases it is acknowledged that no mere mechanical relief to the heart could explain the observed effects. Since Metchnikoff's epoch-making discovery of the phenomenon of phagocytosis as a mechanism of bodily defence, its relationship to the acquisition of immunity has been vaguely acknowledged and no more. There seems to be, therefore, a gap that requires linking up, with a view to the elucidation of these physiological phenomena. I venture to submit that this can only be achieved by increasing our little knowledge of the lymphatic systems of the body, about which next to nothing is known. The literature of this subject in English text-books is of the most meagre and fragmentary kind. One must needs turn to the elaborate works of such French authors as Poirrier, Cuneot, and Delamare, pupils of the great Sappey. The late Mr. Cecil H. Leaf's translation, entitled "The Lymphatics," is the most instructive English work of its kind. Since its publication in 1903, the subject has had a fascination for me, and I have taken notes.

I beg to submit the following suggestions for realisation: 1. Leucocytosis is a physiologically perpetual phenomenon on a vast scale, which is more noticeable after food is partaken of, and during extravascular infectious processes of the body. 2. Leucocytes are not the normal cellular constituents of the blood, but of the extra-vascular plasma. Their intrusion into the blood-stream is accidental, and in the venous blood they run risks of asphyxiation. 3. That while their relative proportion to the erythrocytes is 1 in 500 in the blood-stream itself, their actual proportion to erythrocytes in the body is nearer 5,000,000 to 1. 4. That phagocytosis is performed normally outside the blood-stream, where anti-bodies are only generated, and the lowering of blood pressure by venesection facilitates the infusion of these, by an aspiratory effect into the blood circulation.

I am, Sir, yours faithfully,
Wimpole-street, W., Nov. 15th, 1911. H. D. MCCULLOCH.

## ELECTION OF DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL.

*To the Editor of* THE LANCET.

SIR,—Kindly permit me through your valuable columns to thank the 3424 medical practitioners who recorded votes in my favour at the recent election. Especially are my thanks due to numerous personal friends in London and the provinces who voluntarily undertook the labour of forming committees and canvassing in their respective districts. I sincerely regret that the state of my health prevented me from effectively seconding their efforts by organising and attending meetings of the profession in London, Manchester, Liverpool, Leeds, and other large towns to discuss the objectionable National Insurance Bill and other medico-political questions of the day. Had the election campaign been carried out actively on the usual lines on behalf of my colleagues, Drs. Hawkyard and Lawrence, and myself, I venture to think that a considerable number of the 12,000 and more registered practitioners who did not take the trouble to fill up their voting papers would have voted solidly for us.

The events connected with the recent election, in my opinion, emphasise strongly the need of an early reform of the Medical Acts, especially in regard to Direct Representation on the General Medical Council.

I am, Sir, yours faithfully,
Callington, Cornwall, Nov. 15th, 1911. GEORGE BROWN.

## A SPHYGMOGRAPHIC METHOD FOR THE ESTIMATION OF SYSTOLIC AND DIASTOLIC BLOOD PRESSURE.

*To the Editor of* THE LANCET.

SIR,—In Dr. Windle's note in your issue of Nov. 18th, he states that by the auscultatory method he takes as the reading of diastolic pressure the point at which the sound ceases to be heard on releasing air from the armlet bag. According to Dr. George Oliver and others, the point to take is that at which a distinct change in the intensity of the sound occurs, which is generally pronounced and limited to 1 or 2 mm. of the scale. The point at which the sound ceases to be heard is, I usually find, a very considerable number of mm. lower. In using Pachon's sphygmo-oscillometer, which has been recently described in various journals,[1] the point of definite decrease in the amplitude of oscillation on reducing air pressure is taken as corresponding to the point to which I refer, though on further reduction of pressure considerable oscillation still takes place. I have not, however, any practical experience of this instrument. It is still a debateable point as to what reading represents most truly the diastolic pressure. Having abandoned for some time the tactile method in favour of the auditory, I find the latter to give more precise readings, whatever their exact interpretation may be.—I am, Sir, yours faithfully,
Melton, Suffolk, Nov. 24th, 1911. STEPHEN G. LONGWORTH.

## VETERINARY TRAINING AND THE PUBLIC HEALTH SERVICE.

*To the Editor of* THE LANCET.

SIR,—I should like to say a few words upon an annotation headed, "Veterinary Training and Public Health," which appeared in your columns recently. As one that has recently qualified at the London Veterinary College, and taken the post-graduate course at that institution, I could not help taking some of Dr. D. N. Knox's

[1] THE LANCET, Sept. 2nd, 1911, p. 680.

remarks as a slight to the veterinary profession, and I can only consider that he is ignorant of the methods of training employed at the Veterinary Colleges. The course of pathology and bacteriology at the London College, under Sir John McFadyean, is very thorough, and the students spend a considerable time in the laboratory. During the post-graduate course the men spend five hours a day in the laboratory for ten weeks, and I think that anyone having taken these two courses can reasonably consider himself capable to act as an official in a scientific laboratory. And I do not agree with Dr. Knox that at the present time, and for some time in the future, men would have to be chosen from the medical officers of health to fill these positions.

The final-year students and the men taking the post-graduate course attend the Islington cattle market regularly for the purpose of studying meat inspection, and lectures on this subject form part of the College curriculum. So that I think that the veterinary profession can justly claim to be the most suitable men, at least, for the inspection of meat. No other profession devotes its whole time and energy to the study of the diseases of the domestic animals.

I am, Sir, yours faithfully,

J. MALCOLM ARMFIELD, M.R.C.V.S.

Croydon, Nov. 14th, 1911.

## BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

*Bristol Medical School: Annual Dinner.*

THIS dinner was attended by over 100 past and present students of the Bristol Medical School. Mr. C. E. S. Flemming, of Bradford-on-Avon, occupied the chair, and Mr. Howard Marsh, professor of surgery in the University of Cambridge and Master of Downing College, was the guest of the evening. After the loyal toast, Professor Marsh's health was proposed by Mr. E. H. E. Stack; and Professor Marsh's reply included a proposal of the health of the University of Bristol. To this Professor E. Fawcett, Dean of the Medical School and professor of anatomy, replied for his own faculty, and Professor A. R. S. Kemp, professor of Greek, on behalf of the other faculties. The health of the students, past and present, was proposed by Dr. J. O. Symes, who spoke of the overloading of the curriculum and some of the evils consequent thereon, to which Dr. Cecil Clarke and Mr. C. C. Harrison replied. The health of the president was proposed in an admirable speech by his brother, Dr. A. L. Flemming.

*Chancellorship of the University of Bristol.*

It has been officially stated that the name of Lord Haldane will be submitted to the next meeting of the court in December for election to the Chancellorship of the University. It is universally agreed that no more suitable and honourable name could have been brought forward.

*A Medical Mayor's Dilemma.*

Dr. Charles J. Vlieland, the mayor of Exeter, who is one of the assistant medical officers of health of the city, recently placed his resignation of the latter office in the hands of the city council on the ground that his retaining a salaried appointment was incompatible with his holding the office of mayor. After some discussion, in which members of the council stated that it seemed most unfair to expect Dr. Vlieland permanently to resign the appointment and for the city to lose his valuable services, it was decided to accept the resignation for the year of office only. The matter was referred to the sanitary committee to make arrangements for the performance of his duties as assistant medical officer of health during the ensuing year.

*Gloucestershire Royal Infirmary.*

The annual meeting of the members of the Gloucestershire Royal Infirmary League was held on Nov. 15th, under the presidency of the chairman, Colonel Curtis Hayward. It was stated that during the past 12 months members of the league had collected £236, and that this sum had been handed over to the treasurer of the infirmary. Colonel Hayward said he was sorry to see that it was proposed to erect a memorial hospital to the late Sir Charles Dilke at Speech House, in the Forest of Dean. He hoped that the memorial would take the form of a convalescent home, as the original scheme would divert subscriptions from their own infirmary.

*Acute Poliomyelitis in Devonshire.*

The medical officer of health of Devon, Mr. G. Adkins, reports that since the outbreak of the disease last July, 129 cases of poliomyelitis have been reported, with 24 deaths. During the same period, four cases of cerebro-spinal fever have occurred.

*The Didworthy Sanatorium for Consumptives.*

On Nov. 4th, the mayor of Plymouth, in the presence of a large gathering, laid the foundation-stone of a new pavilion, to be added to the Didworthy Sanatorium for Consumption, at Brent, near Plymouth. This is a portion of the Plymouth memorial to the late King.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*Association of School Medical Officers for Scotland.*

A GENERAL meeting of this association was held in the Ophthalmic Institute, Glasgow, on Nov. 18th. Dr. E. T. Roberts, the president, occupied the chair, and 41 members were present. Seven new members were duly elected. Dr. H. Wright Thomson gave a demonstration of eye diseases in relation to school medical inspection. Cases of blepharitis marginalis, catarrhal and strumous ophthalmia, interstitial keratitis, trachoma, ophthalmia neonatorum, and myopia were shown. Dr. Thomson concluded his most instructive demonstration with a review of the methods of instruction at present employed in the education of the blind and partially blind. Dr. Walter F. Brown read a paper on "A Plea for Special Classes for Cases of High Myopia," in which he detailed the methods of teaching as carried on in these classes in London and elsewhere, and urged that such classes would be of great benefit in rural districts where access to institutions was difficult. On the proposal of Dr. Roberts votes of thanks were awarded Dr. Thomson and Dr. Brown. It was arranged to hold the next meeting of the association in Perth on Saturday, Jan. 20th, 1912.

*Control of Phthisis in Glasgow.*

The report just issued by the Local Government Board on the administrative control of tuberculosis in Glasgow is worthy of serious consideration, not only for its own sake and in relation to the specific recommendations—of which the chief is the vesting of all control in the public health authority instead of dividing control between that body and the parish councils—but because of its suggestive value as regards the best way of grappling with the whole problem involved. Two years ago, owing to the pressure on the available hospital and poorhouse accommodation, the Local Government Board instituted an investigation as to the whole control of tuberculosis in Glasgow, and three reports are the outcome of this investigation, and are given in a Blue-book just published. In the first Dr. F. Dittmar, medical inspector, summarises and illustrates the work of the Glasgow parish council, and also describes the sanitary and economic conditions of a series of patients on outdoor relief. In the second, Dr. Elizabeth M. McVail shows the work done in that section of Glasgow served by Govan combination poorhouse, and describes fully the clinical and economic conditions of 100 patients. In the third, Dr. T. F. Dewar deals with the administrative measures taken by the public health authority, and analyses 100 consecutive cases notified to the medical officer of health in order to illustrate the administrative difficulties and the methods whereby they may be solved. In his report Dr. Dewar draws attention to the fact that throughout the country generally considerable uncertainty prevails concerning the relation of the authorities entrusted with the administration of the Poor-law and the care of the public health respectively as regards the responsibility for the control and the eradication of tuberculosis. In Glasgow the problem is especially grave and acute for several reasons. The solution of the question is divided between two administrative departments, resulting in overlapping, want of continuity, and deficient coördination. There are yet other factors which make inquiry and consideration of the whole subject a matter of extreme urgency and difficulty. Under the existing Poor-law

in Scotland it is illegal to relieve the dependents, whether ill or healthy, of an able-bodied man. As a result, if a wife be tuberculous and the husband can only partially contribute towards her maintenance in hospital, she cannot be relieved. Again, as pointed out by the medical officer of health of the city, while the consumptive pauper may obtain accommodation and treatment in a Poor-law institution, there is no such provision for the patient just above him in the social scale, so that the improvident are better off than the provident. It is true that something much better than the law provides is frequently done, but all will admit that it is not a very healthy state of affairs when the law must be broken, or evaded, or ignored in the interest of humanity and common-sense. In Glasgow compulsory notification was adopted in 1910, and at present there are five sources of information—"private" notification from medical practitioners, "parochial" by the Poor-law medical officers; "public" notifications from hospitals, dispensaries, and other public medical institutions; "death-cards" (following the visit of a sanitary inspector to a house in which a death has occurred); and from the Poor-law hospitals. On receipt of notification, whatever its source, the patient's house is visited by a sanitary inspector, who fills up a schedule as to the home conditions, ascertains if the visits of the phthisis nurse would be acceptable, arranges for the washing and disinfection of clothes, and presents the patient with a leaflet of instructions. Four nurses are employed in the domiciliary visitation of patients' homes. In addition, five tuberculosis dispensaries have been established by the health authority throughout the city. These are intended to act as a "clearing house," and also to link up the various agencies into administrative association. Dr. Dewar makes the following suggestions:—

1. The whole duty and responsibility for the control of phthisis should be vested in the local authority (as apart from the relief of dependents rendered destitute by the incapacity of the wage-earner).
2. There should be such extension of the accommodation for cases of phthisis as will permit of (*a*) a period of educational isolation for early or hopeful cases; (*b*) isolation of all advanced cases prepared to accept it.
3. There should be such modification of the methods of disinfection as will imply the thorough cleaning of premises by the tenant or owner as advised by the sanitary authority.
4. Cases which have been notified should be kept under observation so long as they remain a menace to the public health.
5. Patients who are excreting tubercle bacilli should, under the powers conferred by the Public Health Act, be detained in hospital, if their houses or habits make domestic isolation impossible.
6. There should be close and regular supervision of all notified cases which usually reside in common lodging houses.
7. Suitable premises should be provided for the conduct of the work of the dispensaries, and that work extended by increase of medical and nursing staff.

Nov. 28th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Bicentenary of the School of Physic in Ireland.*

A MOVEMENT is on foot to celebrate in suitable fashion the bicentenary of the School of Physic in Ireland, better known as the Medical School of Trinity College. Although there was a professor of physic and a *socius medicus* from the early times of the College, it was not until the second decade of the eighteenth century that anything like an organised school existed. Within a few years professorships and lectureships in anatomy, chemistry, botany, and physic were founded, the last-named from funds left by Sir Patrick Dun. It is proposed to hold the celebrations next June, and a provisional committee has been formed consisting of Professors James Little, Sir Charles Ball, W. H. Thompson, James Craig, A. Francis Dixon, Dr. A. C. O'Sullivan, and Dr. T. P. C. Kirkpatrick. A committee of graduates will shortly be formed, and those who are willing to become members are invited to send in their names. Meanwhile, the provisional committee is anxious to receive suggestions as to the conduct of the celebrations, and invites the loan of documents or other objects of interest which may illustrate the history of the school.

*The Milk-supply Commission.*

The Irish Milk-supply Commission, the appointment of which was announced recently, has commenced its sittings in Dublin Castle. Among the first witnesses examined were Sir Charles Cameron, medical officer of health of Dublin, Mr. A. Watson, chief veterinary inspector for Dublin, and a representative of the Local Government Board.

*Town Planning Association.*

A public meeting was held on Nov. 27th, under the presidency of Her Excellency the Countess of Aberdeen, to inaugurate a Housing and Town Planning Association of Ireland. The object of the association, as explained by a provisional committee, is to supply a permanent educative force on behalf of reform and regeneration, and to create in Ireland a body of sound public opinion which would eventuate in the uprise of beautiful and healthy towns, the amelioration of the hard lot of the workers, and indirectly in the decline of pauperism and crime.

*The Government and Irish Schools.*

At the monthly meeting of the Londonderry No. 1 School Attendance Committee on Nov. 22nd, the Ven. Archdeacon Colquhoun presiding, the Rev. Patrick O'Doherty proposed a resolution urging upon the Commissioners of National Education the necessity of providing a new school in the townland of Altahoney. The Rev. John Beckett, in seconding the resolution, said the Irish National Schools were a disgrace. He was strongly of opinion that Government should make the children its first care, for they were the only hope of the State. It is interesting to find the clergy of the various ecclesiastical bodies in Ireland taking steps to ventilate a matter to which medical men have so frequently called attention in Ireland.

*Typhoid Fever Epidemic at Omagh Asylum.*

At a meeting of Omagh rural council held on Nov. 25th the medical officer of health forwarded 77 notifications of cases of typhoid fever at Tyrone and Fermanagh Asylum. He again directed the council's attention to the necessity of the asylum authorities providing a tank for the proper treatment of the sewage before it reached the river which flowed through Omagh. The chairman replied that the cause of the outbreak had not yet been discovered, and suggested that the asylum authorities be asked if they had received a report on this matter from the expert they had employed, a course which was agreed to. It is to be hoped the Local Government Board will compel the authorities to take some action to prevent sewage from an institution full of typhoid fever patients to pass untreated into a river which subsequently passes through a county town until the cause of the outbreak is discovered.

*Enteric Fever at Hillsborough, Co. Down.*

At a meeting of the Hillsborough rural council held on Nov. 21st it was reported that the outbreak of enteric fever there was probably due to the pollution of the surface well used by the occupiers of eight houses, in four of which the disease had occurred. Suggestions were made by the Local Government Board Inspector (Dr. B. O'Brien), who pointed out that it was the duty of the sanitary authority to provide a pure water-supply, and that the wells should be properly protected and that pumps should be erected instead of the dip wells. A committee was appointed to investigate the matter.

*Pomeroy Dispensary.*

At a meeting of the Cookstown board of guardians, held on Nov. 25th, Mr. W. J. F. Mayne, M.B. Edin., was elected medical officer of the Pomeroy dispensary district at £80 per annum to begin with—that is, £10 less than formerly. Subsequently, at a meeting of the rural council, Dr. Mayne was appointed medical officer of health for the Pomeroy district at a salary of £20 per annum.

Nov. 28th.

## CANADA.

(FROM OUR OWN CORRESPONDENT.)

*The Canadian Death Toll in Four Years.*

"WHAT we Pay for Hustle" is the title of an editorial article in the *Monetary Times*, Toronto, of recent date. In four years in Canada there have been killed by steam railways 2049 persons; by electric railways, 301; by industrial accidents, 5296; by fires, 1072; total, 8718. Those who have been injured by steam railways number 7344; by electric railways, 8296; by industrial accidents, 10,444;

by fires (estimated), 1908; total, 27,992. This looks as though Canada needs better laws for the protection of life.

*St. John Ambulance for Quebec.*

The general secretary of the St. John Ambulance Association has arrived in Montreal from Ottawa in connexion with the establishment of a provincial branch for this association in Quebec, with headquarters in Quebec. The Canadian branch, which was only recently organised, is at the present time giving instruction to more than 3000 people. The Canadian Pacific Railway, recognising the value of the movement, has established posts for instruction from coast to coast. After the branch is established in the province of Quebec five lectures on first aid will be given weekly by a Montreal physician. Lectures will also be given exclusively for women.

*Small-pox in Quebec.*

In spite of all the measures adopted by the Provincial Board of Health of Quebec small-pox is spreading in that province. The outbreak is active in the Lake St. John district, the North Shore of the St. Lawrence, Beauce County, L'Islet, Ottawa district, and St. Maurice County. In the latter county 20 cases were recorded during the first week in November, and the strictest quarantine measures have been adopted. Dr. Elzear Pelletier, secretary of the Quebec Board of Health, says that the greatest obstacle encountered by the board is the apathy of local municipal authorities, who are rather loath to enforce vaccination. He considers that opposition to general vaccination was the real cause of the actual outbreak. Country physicians are also too prone to diagnose mild cases of small-pox as chicken-pox.

*McGill University as a Model for the English Royal Commission.*

It is gratifying to Canadians that the structure and constitutional development of McGill University, as regards the relations of the University to practical trades and industries, is being carefully studied by a British Royal Commission. Before the Commission now sitting Principal Peterson gave some history of McGill in the last 15 years, which he summed up in the word "unification." He also cited the great reversion of feeling in connexion with the teaching of medicine in that institution. Whereas formerly to a large extent medical teaching was in the hands of practitioners, the medical men asserting that the proper teaching of medicine was the teaching of medical men by medical men, and the unification conception was depreciated, now the medical men of the school are satisfied that the university view of medical study is absolutely indispensable for the success of a well-conducted medical school. Referring to the sciences, Principal Peterson declared that the aim in Canada was to begin with the highest department of technical and scientific work. Every year from 80 to 90 men pass from McGill equipped with the science degree straight into well-remunerated positions of usefulness. The number of students from England is increasing year by year; and there are now some 50 or 60 English boys taking their education in the science branches alongside of Canadians. McGill has not yet rivalled Toronto University in granting a degree in domestic science.

*Infant Mortality in Montreal.*

Out of every 100 children born in the city of Montreal in the year 1909, when the last blue-book was issued on this subject, 29 died in the first year; and out of the total mortality of the people 54·92 per cent. was caused by the deaths of children under 5 years of age. In the month of July in the present year out of 1419 deaths 1033 were those of children under 5 years of age, giving 72·92 per cent. of that month's mortality. Out of 6297 deaths occurring in Montreal from Jan. 1st to July 31st, 1911, 3482 were those of children under 5 years of age. According to Professor N. H. Alcock, the newly appointed professor of physiology at McGill, succeeding the late Dr. Wesley Mills, one of the pressing needs of McGill University is an institute of physiology, which Professor Alcock considers could be provided for £5000 and maintained for £800 a year. He considers that the infantile death-rate in Montreal, through scientific precautions, could be materially lessened, as in Paris, where it has been reduced one-half.

*Cancer in Ontario.*

According to the report for 1909 of the Registrar-General of Ontario, which has just been issued, there were in that province 1597 cases of cancer resulting in death. The advance in cancer in the province is shown by the fact that in the year 1902 there were 1048 deaths from cancer; in 1903, 1156; 1904, 1253; 1905, 1224; 1906, 1411; 1907, 1329; 1908, 1348. In the county of York, in which Toronto, the chief city of Ontario and the second of Canada is situated, there were 308 deaths from cancer, of which 259 occurred in Toronto, but many go to the hospitals of the city to be operated on.

*Deaths from Venereal Diseases in Ontario.*

It is significant of the times that the Ontario Board of Health in its report takes cognisance to some extent of the deaths resulting from venereal diseases in that province. Under the head of syphilis and gonorrhœa the deaths are set at 25. Of these, 15 were found in children, 13 being in those under 1 year of age, and the remaining two under 2 years of age. Twenty-two of these cases occurred in the cities, 19 being in Toronto. The report considers this question one of vital importance, and advises systematic instruction in the schools about these diseases. Opinion is divided on this matter, but the opinion is growing that all venereal diseases should be under the direct surveillance of the medical health officer.

*Deaths from Tuberculosis in Ontario.*

In the year 1909 there were 2380 deaths from tuberculosis in Ontario. In 1870 the number was 886. Year by year these deaths increased until the year 1900, when they stood at 3484. Since that time there has been a decline. There were 131 less in 1909 than in 1908. The ratio per 1000 of the population is 1·06, whilst the percentage of deaths from tuberculosis, compared with the number (32,628) of deaths, is 7. The new building at Ste. Agathe is now in full operation and caring for 45 patients. The paid-up donation fund amounts to $85,949, but there is still a debt of $77,000 on the building. There was a deficit in the expenses for the year of $1,994.

*Registration at the University of Toronto.*

Over 3500 students have registered in all departments of the University of Toronto for the ensuing year. The arts number 1765; medicine, 512; education, 266; applied science, 780; household science, 143; forestry, 47. With "regular occasionals," dental and veterinary students, and teachers in the summer session, the year's total is brought up to 4144.

*Academy of Medicine, Toronto.*

The formal opening of the new building of the Academy of Medicine, Toronto, took place on Oct. 26th. The President, Dr. N. A. Powell, with Mrs. Powell, received a large number of members and their friends. Mr. Allan Hazen, a New York expert on water-supplies, delivered an address on the filtration plant about completed for Toronto. Dr. Powell's Presidential address went very fully into the hospital situation in Toronto. The Academy of Medicine will ask the Government to supply antityphoid vaccine to those going into lumber camps for the winter. Speaking on this resolution, Professor McPhedran considered it was more important for the Government to supply pure water.

*Toronto's Filtration Plant.*

The completion of Toronto's water filtration plant, which was begun two and a half years ago, is announced. The cost will be $1,250,000. It covers 17½ acres. It has 12 filters, each measuring 312 by 117 feet. The capacity of the filters is 50,000,000 gallons in 24 hours. The capacity of the pure-water reservoir is 8,000,000 gallons. The process is that of slow sand filtration. Each filter is lighted by 12 interior electric lights; its walls are 3 feet thick at the base and 20 inches thick at the top. Some time hence Filtration Plant Park will be one of the prettiest spots in the neighbourhood of Toronto Island.

*Violent Deaths on the Increase in Toronto.*

Toronto's list of violent deaths increases every year. The total number for the past official year reached 177, the number of drownings, as usual, heading the list with 29, one less than for the previous year. Carbolic acid poisoning comes next, claiming 18 victims. This would show that the law governing the sale of carbolic acid is not properly enforced. There were 17 deaths from street-car accidents; 13 steam-car accidents; 11 burned to death; and 7 automobile deaths. The victims of gas poisoning numbered 13,

as against 8 of the previous year. Five people shot themselves this year; last year, none. Three people hanged themselves.

*Annual Meeting of the Laurentian Sanatorium.*

The annual general meeting of the Laurentian Society was held recently in Montreal. Mr. D. Lorne McGibbon, the President, occupied the chair.

Nov. 7th.

# Obituary.

## WILLIAM WILFRID WEBB, M.D., C.M. ABERD., M.R.C.S. ENG., F.S.A.,

LATE MAJOR, INDIAN MEDICAL SERVICE.

Dr. Wilfrid Webb was a son of Dr. F. C. Webb, physician to the Great Northern Hospital and editor of the *Medical Times and Gazette*. He was born in 1857, and was educated at King's College School, at Charing Cross Hospital, and at the University of Aberdeen. He became L.S.A. in 1878, M.R.C.S. in 1880, and in April, 1881, he graduated M.B., C.M., at Aberdeen, with highest academical honours, being the only man in his year to gain this distinction. He graduated M.D. in 1894. He held the following appointments in London before entering the Indian Medical Service: assistant demonstrator of anatomy and demonstrator of physiology at Charing Cross Hospital School, house physician at the Great Northern Hospital, and medical registrar at Charing Cross Hospital. In the spring of 1882 he suffered severely from rheumatic fever, and by the advice of his friends he gave up his intention to practise as a physician in London. In 1882 he obtained the second place in the open competition for commissions in the Indian Medical Service. At Netley he was awarded the gold medal for military medicine and the Fayrer prize in pathology. Proceeding to India, he served in the following regiments: 14th Sikhs, 2nd Regiment of Central India Horse, 29th Punjab Infantry and Meywar Bhil Corps. In the July of 1886 he was seconded for service in the political department under the Indian Foreign Service, being sent as residency surgeon to the court of H.H. the Maharanah of Udaipur, and thence he was in due course transferred to Bikanir. At Bikanir, as at Udaipur, he not only had charge of the Government medical work, but he was also superintendent of all the hospitals, dispensaries, and jails in these States and head of the vaccination department. In 1888 he acted as guardian to H.H. Ganga Singh, and he also held charge of the Bikanir Political Agency. His career in India was brought to a close by another attack of rheumatic fever, and in 1894 he was placed on permanent half-pay. In 1893 he became secretary of the Army Medical School and curator of the Museum at Netley. There he remained until the abolition of the Army Medical School, when his connexion with the service was finally severed. While at Netley he carried on a considerable private practice, and took an active interest in local affairs. In 1899 in consequence of the issue of the Royal Warrant, he was ordered to assume the title of captain, and in 1900 he was promoted to the temporary rank of major. During his life he did much useful literary work; he was for about 15 years a constant contributor to THE LANCET, and for many years he contributed the article on the Public Services to our Students' Number. He also published a book on the Indian Medical Service in 1890, and a work on "The Currencies of the Hindu States of Rajputana," illustrated by himself. He took great interest in biographical, genealogical, and heraldic work, and contributed many articles to "The Dictionary of National Biography." On the abolition of the Army Medical School he went to reside at Berkhamsted. Subsequently he moved to Exeter, where he died on Nov. 18th.

Dr. Wilfrid Webb will be greatly regretted by all who knew him. The above brief enumeration of the facts of his life shows that he was a highly gifted man, whose promising career was terribly prejudiced by ill-health.

## WILLIAM MILLINGTON, M.D. EDIN., M.R.C.P. LOND.,

CONSULTING PHYSICIAN, WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

ANOTHER link with the past has been severed by the death, on Nov. 5th, of Dr. William Millington, of the Clevelands, Wolverhampton, at the advanced age of 90 years.

Born at Oldbury in 1821, he began his professional studies at Guy's Hospital, London, where he came under the teaching of Aston Key, Bransby Cooper, Cock, Hilton, and Poland. He afterwards proceeded to Dublin and to Edinburgh, where he was clinical assistant to Dr. Robert Christison and Dr. Allison. He tied with the late Sir John Burdon Sanderson for one of the University distinctions. In 1851 he obtained the graduation gold medal for the thesis on the Pathology of Pus in the Blood. Many of the observations upon which this essay was based were the outcome of his studies under Sir James Y. Simpson, who wrote of his pupil, "He is sure to acquire the very first rank in his profession in whatever part of the world he may settle, for I have seldom seen professional zeal and earnestness more thoroughly combined with extensive professional abilities and information." Until the last year of his life he continued to take the same keen interest in pathological and clinical details which had characterised him as a younger man.

Having already enjoyed extensive opportunities for clinical study, he spent the summer of 1843 in Paris, where he attended the hospital practice and teaching of Roux, Lisfranc, and Velpeau. He became a Member of the Royal College of Physicians of London in 1859. In 1852 he was elected honorary physician to the South Staffordshire and Wolverhampton Hospital, with which institution he was thus connected for 60 years. For many years he was indefatigable in his work there, where an enormous number of patients attended under him, and where his reputation added greatly to that of the hospital. At the same time he had a large and extended practice, both private and consulting. He will chiefly be remembered by many of his patients as a pioneer in the open-air treatment of consumption, of which he was always a strenuous advocate. On his retirement from the staff of the hospital in 1885 he was elected consulting physician. He was largely instrumental in founding the Wolverhampton Eye Infirmary and was a member of the managing committee.

Dr. Millington was one of the original members of the Staffordshire county council and did valuable work, especially on the health committee of that body. He was a liberal supporter of many charitable and religious institutions.

The deceased leaves a widow, who is a sister of Sir Robert Ball, the professor of astronomy at Cambridge, and of Sir Charles Ball, the Regius professor of surgery at the University of Dublin, both of whom attended his funeral.

## WILLIAM HENRY WEBB, M.D. DURH., L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.,

SURGEON-LIEUTENANT-COLONEL 2ND BATTALION DEVON REGIMENT (T.F.), V.D.; MEDICAL OFFICER OF HEALTH OF KINGSBRIDGE (DEVON) URBAN AND RURAL DISTRICTS.

Dr. W. H. Webb died at Thurlestone, Devon, on Nov. 14th, in his fifty-ninth year. The deceased, who received his medical education at St. Bartholomew's Hospital, London, qualified M.R.C.S. Eng. and L.S.A. in 1876, ten years later he obtained the L.R.C.P. Lond., and graduated M.D. of Durham in 1893. Dr. Webb joined the late Dr. Cornish in partnership at Kingsbridge about 30 years ago, and on the retirement of the latter a few years later succeeded to the practice. He was highly respected and esteemed in Kingsbridge and the district, and had a very extensive practice. He was medical officer of health of the Kingsbridge urban and rural districts, honorary surgeon to the Kingsbridge Cottage Hospital, medical officer and public vaccinator for the third, fifth, and tenth districts of the Kingsbridge Union, and was also certifying factory surgeon for the district. He took a great interest in the Volunteer movement, and was Surgeon-Lieutenant-Colonel of the 2nd Battalion Devon Regiment (T.F.), V.D. He was a keen worker also in all local matters connected with Kingsbridge, and served on several of the public bodies connected with the town.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Bernhard Fraenkel, formerly honorary professor of laryngology in the University of Berlin, aged 75. His early professional life was spent in general practice in Berlin, and as a military surgeon during the wars of 1864, 1866, and 1870. Later he held various hospital appointments in Berlin and lectured on children's diseases. He then established a private dispensary for throat and nose cases, and obtained so much reputation for his scientific work in that field that the university took over the dispensary and made it a university clinic, Dr. Fraenkel being appointed

professor. This was the first university laryngological clinic established in Prussia. His publications are very numerous and include articles on throat and nose diseases in Ziemssen's Handbook and Eulenburg's Encyclopædia. He also edited the *Zeitschrift für Praktische Medizin* and the *Archiv für Laryngologie*. In addition to his purely scientific work he took a great part in the conduct of medical societies and was much esteemed in professional and non-professional circles, where he will be greatly missed.—Dr. Vincenz Fukala, of Vienna, whose views on the correction of myopia by operative measures attracted attention some years ago. His age was 64.—Dr. Louis Harvey Jones, formerly professor of forensic medicine in the Atlanta College of Physicians and Surgeons.—Dr. Hermann Kiefer, formerly professor of medicine in the Ann Arbor University, Michigan.—Dr. Henry Merriman, formerly lecturer on gynæcology in the Rush Medical College, Chicago.

# THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 28TH.

THE General Council of Medical Education and Registration commenced its winter session at its offices, 299, Oxford-street, W., to-day. Sir DONALD MACALISTER, the President, was in the chair.

*New Member.*

Mr. Rutherford John Pye-Smith took his seat as representative of the University of Sheffield. He was introduced by Dr. Caton.

*The President's Address.*

The President, Sir DONALD MACALISTER, then delivered his address. He said: We miss to-day, with deep regret, the familiar and ever-helpful presence of our general registrar, Mr. H. E. Allen. The news of his sudden death on July 10th brought a sense of personal loss to every member of the Council. For 33 years he had been associated with its work, and had performed the important duties assigned to him with assiduity and skill. Of those who constituted the Council when he entered its service not one is now with us, and only four remain of those who took part in his first appointment as general registrar. His great experience in all that related to the Council's business, his fidelity in carrying out its decisions, and his unsparing efforts to promote the efficiency of its administration, were constantly and gratefully recognised by successive Presidents, treasurers, and other members of the Council. His courteous bearing and his readiness to be of service impressed all who sought his aid, whether officially or privately. The spontaneous tributes paid to his memory by those within and without the Council whom he had thus assisted and befriended testify to the warm regard in which he was held. The Executive Committee, which naturally had special opportunities of estimating his character and abilities, has placed on the minutes an expression of its appreciation which the Council as a whole will doubtless endorse with sympathy.

In accordance with the Standing Orders the Executive Committee met in July and appointed the Assistant Secretary, Mr. Norman Carew King, to perform temporarily the duties of Registrar. With the loyal help of the other members of the staff Mr. King, as Acting Registrar, has since carried on the regular operations of the office. To these has been added the onerous and responsible work connected with the recent general election of Direct Representatives, undertaken on behalf of the English Branch Council. As President I have paid frequent visits to the office during the recess, and I have assured myself, as I am now pleased to assure the Council, that its administrative business has been conducted with great efficiency and economy under Mr. King's direction, and that its interests have suffered no detriment during the vacancy in the registrarship.

Certain changes in the membership of the Council have been intimated as actual or imminent. Dr. Cocking, the first member appointed by the University of Sheffield, whose ill-health prevented him, to our regret, from attending last session, has resigned his seat. In his place the University sends Mr. R. J. Pye-Smith, its Professor of Surgery. He bears a name that is honourably associated with the profession of medicine, and in particular with the rise and progress of the Sheffield Medical School. Dr. Finlay is about to resign the Regius chair of medicine in the University of Aberdeen and will retire from the Council next month. Happily, he will continue during the present session to afford us the benefit of his sound and sober counsel, in relation especially to the work of the Penal Cases and Examination Committees, to which during the past ten years he has rendered much good service. It is announced that his successor is Professor Theodore Cash, F.R.S., whose eminence as an investigator in the domain of rational therapeutics will ensure him a welcome. The election of a representative by the registered practitioners of Scotland has resulted in the return of Dr. Norman Walker unopposed. This notable token of approval and confidence on the part of his professional brethren in Scotland will give much satisfaction to his colleagues on the Council. In England Dr. Langley Browne and Dr. Latimer have been re-elected, by large majorities, for a further term of five years. The Council is to be congratulated on thus retaining the services of two members who have in the past so ably contributed to its practical efficiency. In pursuance of a recent Order in Council, an additional representative was elected at the same time, to hold office from the beginning of January. The new member is Dr. T. J. Verrall, and the election shows that he holds a high place in the favour of his fellow practitioners. He has taken an active part in medical organisation and is conversant with the public questions which at present engage professional attention. His experience will enable him to contribute a valuable element to our discussions.

Before turning to topics other than personal, let me mention the passing of one of the most eminent of our former members, the late Sir Samuel Wilks. He sat with us as the representative of the University of London for nine years, during which he was at the height of his fame as a scientific physician. His strong individuality, his sententious wisdom, and his downright sincerity of purpose, made an abiding impression on those who then were privileged to work with him.

The progress through Parliament of the National Insurance Bill has been watched by your committee with close attention, and occasionally with some perplexity. The proposals for its amendment, which you adopted at the last session, were duly communicated to the Government through the Lord President; and they were also advocated at personal interviews with the Chancellor of the Exchequer and other officers of the Treasury. The correspondence with the Chancellor which ensued has been made public at his request, and is in your possession. The Chancellor indicated his personal agreement with most of the Council's recommendations, and promised that they should have his favourable consideration when the Bill came to be amended in Committee of the House of Commons. Copies of the Bill, as amended in Committee, have now been placed before you, in order that you may judge of the extent to which effect has been given to your suggestions. The committee in charge of the subject will report on it during the present session of the Council, but in the meantime it may be convenient if I indicate in a few words the position which appears to have been reached.

It is now provided that of the Insurance Commissioners for England "one at least shall be a duly qualified medical practitioner who has had personal experience of general practice." The Advisory Committee, appointed for the purpose of giving the Insurance Commissioners advice and assistance in connexion with the making and altering of regulations, is by law to include duly qualified medical practitioners. The Local Health Committee (otherwise called the Insurance Committee) of a district may now consist of from 40 to 80 members. Of these, two are to be elected by the medical practitioners of the district, and at least one other member is to be a practitioner appointed by the Insurance Commissioners. It was pointed out by your committee that in the Bill as originally framed it might happen that not more than two practitioners were appointed on a Local Committee of 22. It will be observed that under the new provisions it is possible that a Local Committee of 80 may not include more that three medical practitioners. The Insurance Commissioners have power to appoint a larger number if they think fit, but they are not obliged to do so. The Council will have to consider whether the minimum

proportion prescribed by the Bill can be described as adequate.

A very satisfactory change in the Bill has been made in respect of the administration of "medical benefits." It is now provided that "medical and sanatorium benefits shall in all cases be administered by and through Local Health Committees." If this provision stood alone it would fully meet the request which was strongly urged by the Council—namely, that the administration of medical benefits by "approved societies" should be eliminated from the scheme of the Bill. But a clause, subsequently introduced, modifies to some extent the universal application of the principle thus laid down. The clause referred to admits "medical attendance and treatment," supplied under an existing system or organisation, to recognition and subsidy as "medical benefit" under the general scheme. This arrangement may prove to have a far-reaching application. As it appears likely to perpetuate the undesirable features of systems of "medical aid," already pronounced by the Council to be detrimental to professional efficiency, and therefore to the public welfare, it should not receive any sanction from us.

The regulations respecting "medical benefit" to be made by the Local Committee, with the approval of the Insurance Commissioners, are to be so framed as to provide for the establishment of a list of practitioners willing to act under the scheme, for the choice by an insured patient of the practitioner who is to attend him, and for the supply of medicines and appliances by properly qualified pharmacists. The importance of these points, which seem to have been overlooked in the original Bill, was pressed upon the Government by your committee. It is satisfactory to find that they have received due attention in the amended Bill. But it must be kept in mind that these and many other questions, on whose satisfactory solution the successful working of the scheme will depend, are to a large extent transferred from the domain of statutory enactment to that of local administrative regulation. For this reason it is of the highest importance that the various authorities concerned, both in framing and in carrying out the local regulations, should have ample facilities for obtaining counsel and assistance from medical practitioners of experience.

On the important question of the hospital treatment of insured persons, some steps have been taken to amend the Bill in the sense desired by the Council. There is still, however, much ground for the fear that the stability of many of the clinical hospitals will be endangered by the operation of the scheme, even in its present form. The efficiency of these institutions, in which medical students receive their practical training in the diagnosis and treatment of disease, is a matter of deep concern to this Council. It is our simple duty, in the public interest, to continue to urge upon the Government the importance of ensuring that their efficiency shall not be impaired.

With reference to the somewhat obscure subject of "maternity benefit," which is to be administered either by an "approved society" or by the Local Committee, it is now arranged that the mother shall herself select the medical practitioner or midwife who is to attend her. I have been informed that a further amendment is contemplated whereby the fee of a practitioner, who is called to attend a case initially under the charge of a midwife, will be chargeable on the funds of the body administering the "maternity benefit." This amendment, if adopted, may help to remove a defect which has seriously marred the working of the Midwives Act. It remains to add that bodies of Insurance Commissioners, distinct from the Commissioners for England, are to be established for Scotland, Ireland, and Wales respectively. It is not expressly provided that these bodies, or the Advisory Committees which will presumably be appointed to assist them, shall include any medical practitioners. This may be an oversight, but it should be made good before the Bill passes into law. In the case of Ireland "medical benefit" is for the present excluded from the purview of the general scheme. Whether the members of the Branch Council for Ireland will view this exclusion with apprehension or with relief I am not in a position to state. In a sense, however, it disposes for the present of the point raised by the Council—namely, that the Irish Poor-law Medical Service should be kept separate from the medical service of the insured part of the population.

The attention of Parliament has been so completely preoccupied since we last met that no steps have yet been taken to bring before it proposals relating to the administration of anæsthetics, the restriction of unqualified practice, or the registration of diplomas in tropical medicine. As a result of recent judicial decisions, it has become notorious that the law, with regard to the assumption by unqualified persons of misleading designations in dentistry, is seriously defective, and ought in the interest of the public to be amended forthwith. The inquiries I have made on behalf of the Council as to the prospects of legislation on any of these matters in the coming session of Parliament have yielded little ground for hopeful expectation. The Council can only continue to press on the attention of the Government departments concerned the gravity of the existing conditions and the necessity of providing a remedy.

The Pharmacopœia Committee has undertaken the duty of preparing a revised text of the British Pharmacopœia with a view to a new issue. It has appointed as editors Professor Tirard, of King's College, London, and Professor Greenish, of the Pharmaceutical Society of Great Britain. Each of these gentlemen has taken an important part in the preliminary inquiries, which have been for some years in progress under the direction of the Pharmacopœia Committee itself, and of the Committee of Reference in Pharmacy nominated by the Pharmaceutical Societies of Great Britain and of Ireland. They are at present engaged in arranging the abundant materials bearing on the subject of revision which have been accumulated by the committee since the last issue of the Pharmacopœia and its addendum, and they will therefrom prepare a first draft of successive sections of the new issue for the consideration of the committee. The committee will from time to time report as to the progress made; but some considerable interval must elapse before the complete work is ready for submission to the Council.

The inspection of the various qualifying examinations in dentistry and dental surgery has been carried out during the past year by Mr. A. S. Underwood. His official reports, with the observations thereon made by the qualifying bodies, and a report on the results of the cycle of inspections by the Dental Education and Examination Committee, will probably be placed before you at the present session. The memoranda received from the several universities and colleges on the subject of public health diplomas, with special reference to recent proposals for altering the educational and other conditions under which these are now conferred, will be communicated by the Public Health Committee. The Council will thus have at its disposal the materials necessary for a considered judgment on the proposals in question.

So far as I can estimate from the documents before me, the other matters which fall to be dealt with on this occasion, though important in themselves, are not likely to require a prolonged sitting of the Council.

On the motion of Dr. LITTLE the President was thanked for his address.

*Commissions in the Services.*

On the motion of Sir DAVID MCVAIL, the following yearly tables for 1911 were received: (*a*) Table showing results of competition held in May, 1911, for vacancies in the Naval Medical Service; (*b*) table showing results of competition held in July, 1911, for commissions in the Indian Medical Service.

It was also agreed, on the motion of Sir DAVID MCVAIL,

That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy and the Under-Secretary of State for India respectively, for the returns which they have again furnished to the Council, with the request that such returns may in the future continue to be furnished to the General Medical Council.

*Apothecaries Society of London.*

On the motion of Mr. NORTON, Mr. Vincent Warren Low, F.R.C.S., was appointed Assistant Examiner in Surgery to the Apothecaries Society of London in the place of Mr. Stansfield Collier, who retired on account of illness.

*The New General Registrar.*

The Council, sitting *in camerâ*, appointed Mr. Norman Carew King to the office of General Registrar, which was rendered vacant by the death of Mr. H. E. Allen.

*Penal Cases.*

The Council took up the consideration of penal cases. The most important of these was that of Mr. James Robertson Wallace, who had been required by the Council at their last session to produce evidence at the present session that his professional conduct had been satisfactory. Mr. Wallace explained his position at the Health Institute connected with

the name of Mr. Sandow, and the Council decided to postpone judgment on the case until next session, requiring of Mr. Wallace the testimony of medical practitioners or other persons of position as to his practice and conduct in the interval. Mr. C. E. Trimble was informed by the President that owing to his conformity to professional standards since the summer session his name would remain on the Register.

*Restorations to Dentists Register.*

After deliberation *in camerâ* the PRESIDENT announced that the Registrar had been directed to restore to the Dentists Register the names of Walter Clifford, Ruby Edmund Clifford, Isidore Clifford, and Stanley Clifford.

WEDNESDAY, NOV. 29TH.

The whole of the sitting was occupied with the consideration of penal cases.

# Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

*Surgery.*—E. G. Brisco-Owen (Section II.), Cardiff and Royal Free Hospital; B. W. Brown (Sections I. and II.), Westminster Hospital; and C. C. Messiter (Sections I. and II.), St. Bartholomew's Hospital).
*Medicine.*—F. C. Shone (Section I.), University College Hospital; and W. H. Vincent (Sections I. and II.), St. Mary's Hospital.
*Forensic Medicine.*—B. W. Brown, Westminster Hospital; and L. K. Edmeades, Guy's Hospital.
*Midwifery.*—B. W. Brown, Westminster Hospital; and A. J. Tozer, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: E. G. Brisco-Owen and C. C. Messiter.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. Guggisberg, *privat-docent* of midwifery and gynæcology, has been promoted to the chair vacated by Dr. Kehrer, who is going to Dresden.—*Breslau:* Dr. Karl Alexander, whose specialty is urinary surgery, has been granted the title of Professor.—*Königsberg:* Dr. Franz Unterberger has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Santiago (Chile):* Dr. Westenhoeffer, who has for some years been engaged in teaching pathological anatomy and establishing a pathological institute on German lines, has recently returned to Berlin, where he was formerly Virchow's assistant. Before leaving he was honoured by a great demonstration of Chilian students, amongst whom he was very popular.—*Tübingen:* The well-known gynæcologist Dr. August Meyer has been awarded a University prize of £500 for his researches.

THE ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students of the Royal Dental Hospital of London was held at the Hotel Metropole on Nov. 24th, Mr. Walter Harrison occupying the chair. The chairman, in proposing the toast of "The Past and Present Students of the Royal Dental Hospital and the Dental School," said he very much appreciated the honour they had done him in asking him to be the representative old student to preside on that occasion. It was always a joy to meet old colleagues, and their annual gathering was a source of encouragement to the present students. He drew an interesting comparison between the way educational work was done in his student days and the progressive methods of the present time. As a teaching institution he was sure the Royal Dental Hospital took the lead for efficiency. He thought the teaching of chemistry and physics within the walls of the hospital a step in the right direction. He suggested that an annual oration should be instituted on these occasions. Mr. G. Northcroft replied in appropriate terms on behalf of the past students, and Mr. E. B. Armitage in a quite neat speech undertook the same duty for the present students, referring in eulogistic terms to the hospital staff and the teachers in the school. The Dean also responded to this toast, and referred to the success of the popular lectures which had been instituted, and to the research work, principally in connexion with the teeth of children, which had been carried out in the school. The toast of "The Visitors" was proposed by Mr. R. McKay, to which Dr. W. Hunter replied. The toast of "The Chairman" was proposed by Mr. C. Robbins. During the evening an excellent and enjoyable programme of music was gone through.

THE NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—The sixth annual general meeting of this league will be held at the Mansion House on Friday next, Dec. 8th, at 3.30 P.M., the Lord Mayor of London in the chair.

NAVAL MEDICAL DINNER.—We are asked to state that this dinner had to be deferred on account of the movements of the various divisions of the Home Fleet, but that Dec. 19th has now been fixed upon and officers concerned will receive detailed notices. Communications may be made to Deputy Surgeon-General J. Lloyd Thomas, Dinmor, Penmon, Beaumaris.

ACCIDENT TO PROFESSOR NEISSER, OF BRESLAU.—Dr. Neisser, whose name is well known in England, has had the misfortune to fracture his thigh. The accident occurred while he was inspecting some buildings to be used in a special exhibition of what we should call lock hospital arrangements. According to the latest intelligence he is progressing favourably.

UNIVERSITY EXTENSION GUILD (UNIVERSITY OF LONDON).—Mr. D'Arcy Power will deliver a lecture at the University of London on Friday evening next, Dec. 8th, taking as his subject the Evolution of the Surgeon in London. The lecture will commence at 8.15, and tickets of admission, price 2*s.* 6*d.*, can be obtained on application by post to the honorary secretaries of the guild, care of the Registrar, University Extension Board, University of London, S.W. Members of the guild will be admitted free.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on Nov. 17th, Dr. F. de Havilland Hall being in the chair. The records of the society are still very satisfactory, showing a good increase in the number of new entrants and a large addition to the funds, which now amount to just upon a quarter of a million sterling. The increase in the number of members is made more gratifying by the fact that the society has no agents, pays no commission for the introduction of new business, and spends almost nothing on advertisement. Over £180,000 have been disbursed by the society in claims, and in this way the advantages of membership are brought to the notice of the medical profession. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A council meeting of this association was held at 34, Copthall-avenue, E.C., on Nov. 21st. Surgeon-General G. J. H. Evatt, in the absence of Mr. D. B. Balding, chairman of council, presided. It was reported that the dispute between the Islington guardians and the local profession had been settled, and the "warning notice" withdrawn. In the dispute between the Shoreditch guardians and the local profession the honorary secretary, Dr. Major Greenwood, pointed out that the effect of local professional action had been to raise the salary of the district from £115 to £150 a year. No local practitioner had come forward, but the appointment had been given to the late assistant of one of them. Certain correspondence between the honorary secretary, Mr. E. G. D. Pineo, of Axbridge, and the clerk to the Axbridge guardians was laid before the council. Mr. Pineo had attended under a medical order a pauper who had died leaving a considerable estate, and he claimed to be paid extra out of this estate. The next-of-kin who inherited the money did not dispute the claim, but letters had passed between the clerk to the Axbridge guardians and Dr. Major Greenwood as to the legal position of the guardians in the matter. The council expressed its satisfaction that Mr. Pineo had recovered his charges, and thought that the legal opinion of the honorary secretary was probably correct, though the clerk did not accept it. The council then considered the recent circular of the Local Government Board respecting statistical information with respect to all paupers under treatment on Nov. 4th last. A letter was read from Mr. W. C. Milward, of Cardiff, enclosing another from the clerk to the Cardiff guardians, which very clearly denoted the amount of extra work thereby thrown on the medical officers if the requirements of the Local Government Board were to be properly carried out. Dr. Greenwood wished to know if any action was

to be taken by the association. He had written to the Local Government Board on the subject, but had as yet received no answer. He thought personally that such duties did not come under Article 205 (1) of the General Consolidated Order, July 24th, 1847, and that some extra payment ought to be made, but it was difficult to say what action could be taken at the present time. The council was strongly of opinion that extra payment should be made for this work, but did not think the time opportune to press the matter. It was resolved to wait till an answer had been received from the Local Government Board to a letter on the subject from the honorary secretary of the association (see p. 1589).

SOCIETY OF APOTHECARIES: LORD MAYOR'S DAY DINNER.—A distinguished company dined with the Society of Apothecaries on Nov. 29th in the ancient hall of the society. The Lord Mayor, Sir Thomas Crosby, M.D., who is this year's Master, presided, and he received many congratulations upon the great honour which the City of London has conferred upon him and upon the vigour and health which he enjoys at the advanced age of 81. He was supported by the President of the Royal College of Physicians of London (Sir Thomas Barlow), the President of the Royal College of Surgeons of England (Mr. Rickman Godlee), the Sheriffs of London, Dr. Norman Moore (representing the President of the General Medical Council), Sir Francis Champneys, Sir James Goodhart, Dr. J. Mitchell Bruce, Sir David McVail, Sir John Moore, Sir Shirley Murphy, Mr. G. H. Makins, and other leading members of the medical profession.

THE NATIONAL SANATORIUM, BENENDEN: A VISIT BY PRINCESS CHRISTIAN.—Her Royal Highness Princess Christian paid a surprise visit to Benenden Sanatorium on Nov. 25th. Her Royal Highness, who is the president of the National Sanatorium Association, was accompanied by Lord Camden, the Lord Lieutenant of the county of Kent, Lady Camden, the Hon. Mrs. William West, and Major Martin. The party visited the wards, administration buildings, and dining and recreation halls, as well as the gardens where the patients are under treatment by a system of graduated work. Patients were seen employed at all the various gardening operations and in carpentry in the open-air workshops of the establishment. Those patients nearing the completion of their treatment were seen performing tasks requiring heavy muscular exertion, whilst those in the earlier stages of treatment were occupied in such light tasks as wood-chopping and weeding. Princess Christian in leaving expressed her keen interest in the work being done by the sanatorium and the excellent results which were being obtained. Her Royal Highness was received by the chairman of the institution, Mr. C. H. Garland, and the honorary advisory physician, Dr. T. D. Lister (who were present on a visit of inspection); the medical superintendent, Dr. J. D. Macfie; Dr. G. M. Mayberry, assistant medical superintendent; and the secretary, Mr. Henry Seagrave.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

*The National Insurance Bill.*

THE names of the Commissioners under the National Insurance Bill, with the exception of that of the medical Commissioner, have been announced by the Chancellor of the Exchequer. The chairman will be Sir ROBERT MORANT, the permanent secretary of the Board of Education. The others will be Mr. JOHN BRADBURY, C.B., principal clerk to the Finance Department of the Treasury; Mr. D. J. SHACKLETON, labour adviser to the Home Office; Mr. J. LISTER STEAD, secretary to one of the largest friendly societies in the kingdom; and Miss MONA WILSON. Mr. J. D. STUART SIM, the Chief Registrar of the Friendly Societies, will be an *ex-officio* member of the Commission, to which Mr. W. J. BRAITHWAITE will be secretary. Mr. LLOYD GEORGE is not yet in a position to announce the name of the medical member of the Commission.

The House of Commons commenced consideration of the National Insurance Bill on report on Tuesday, Nov. 28th. New clauses were first dealt with. One was adopted on the motion of the Chancellor of the Exchequer which has for its purpose to permit of the variation of benefits in certain cases.

*Further Concessions to Medical Representations.*

As the result of deputations to the Chancellor of the Exchequer made during the week from the British Medical Association Mr. LLOYD GEORGE has placed on the paper a series of amendments, which have been summarised as follows in a *communiqué* to the press:—

An increased representation of doctors on the Health Committees to be appointed by the county councils.

Insured persons, although receiving benefits through institutions existing at the time the Bill passes, are to have the option of exercising their free choice of medical attendants.

Persons who are aged and infirm and cannot be insured, but who are present members of a society which has become an approved society, are to receive medical attendance and treatment on the same terms as those arranged with respect to insured persons.

Health Committees to have power to appoint not only district committees but sub-committees, a coöpted element being admitted to the latter.

Medical committees are empowered to arrange for district medical committees.

A Conciliation Board will be set up to settle medical disputes.

## HOUSE OF COMMONS.

WEDNESDAY, NOV. 22ND.

*Scottish Insurance Commissioners.*

IN answer to Mr. BARNES, Mr. MCKINNON WOOD (Secretary to the Treasury) stated that a woman would be appointed as a member of the Scottish Insurance Commissioners.

*Foreign Milk and Contagious Disease.*

Mr. STANIER asked the President of the Local Government Board whether the milk imported from foreign countries (where it was known contagious diseases existed) was examined bacterially and otherwise to see there was no contamination and that the milk was pure and free from disease.—Mr. BURNS said in reply: Samples of fresh milk imported from abroad continue to be taken by my officers for bacteriological examination in regard to tubercle and examination as to general cleanliness of the milk. During the past autumn 28 samples of fresh milk have been taken from consignments arriving from France and Holland, which have been the only sources of this supply. No tubercle has been found in the 13 samples so far reported upon, and no exception can be taken to the milk on the ground of its general cleanliness.

Mr. STANIER: Is it examined before it is allowed to be retailed in this country?—Mr. BURNS: Yes; and it is subject to examination by local authorities.

*Feeding London School Children.*

Sir CLEMENT KINLOCH-COOKE asked the President of the Board of Education whether he was aware that the number of meals provided out of the rates in 1910 for children in London County Council schools was 9,100,000, showing an increase of 1,800,000 over the figures for 1909; and whether he could explain the cause of the increase.—Mr. J. A. PEASE replied: The facts are as stated in the first part of the question. It is understood that the increase may be attributed to the more complete development of the system of care committees and to the greater attention paid by them to the question of malnutrition as affecting the education of children in the elementary schools. Meals were provided in 165 more schools in London during the year 1909-10 than in the preceding year.

*Vaccination Officers.*

Mr. PETO asked the President of the Local Government Board whether the gratuity he was now suggesting that boards of guardians should pay to their vaccination officers was equal to the amount that the officer had lost in consequence of the operation of the Vaccination Act and Order, 1907.—Mr. BURNS replied: The gratuity which the Board has suggested amounts approximately to half the difference between the average annual amount of fees received before 1908 and the amount of those received since.

Mr. C. DUNCAN: Can the right honourable gentleman state when the arrangement will come into operation?—Mr. BURNS: No, sir, not at this moment.

*Cerebro-spinal Meningitis.*

Mr. GOLDSMITH asked the President of the Local Government Board whether any inquiries had been made into the causes of the recent outbreak of cerebro-spinal meningitis in Suffolk.—Mr. BURNS answered: The outbreak of disease in Suffolk has been the subject of correspondence and inquiries on the part of the Board and of the local authorities concerned. In a large number of districts of Suffolk both cerebro-spinal fever and poliomyelitis have recently been made compulsorily notifiable, and pathological material has in several instances been sent to the Board for examination. The evidence points to the conclusion that the disease which has recently occurred is poliomyelitis and not cerebro-spinal fever. This disease generally is at present the subject of reports by medical inspectors of the Board which will shortly be issued.

*National Insurance Bill.*

Viscount WOLMER asked the Speaker whether the National Insurance Bill was a Money Bill within the meaning of the Parliament Act.—The SPEAKER said in reply: The National Insurance Bill, as it now stands, is not, in my opinion, a Money Bill within the definition of Section I. of the Parliament Act.

THURSDAY, NOV. 23RD.

*The Notification of Phthisis in Scotland.*

Mr. E. WASON asked the Lord Advocate whether it was the intention of the Local Government Board for Scotland to issue regulations making consumption a notifiable disease in Scotland in the same way as it had recently been made a notifiable disease in England.—Mr. URE said in reply: The Local Government Board for Scotland has for years urged upon local authorities the desirability of making pulmonary phthisis a notifiable disease, with the result that compulsory notification has already been applied and is in force over areas containing 57 per cent. of the population of Scotland. The Board has now under consideration the question whether the time has come for the issue of a general order on the lines suggested by my right honourable friend.

*The Insurance Bill and the Medical Panel.*

Mr. GRETTON asked the Secretary to the Treasury whether a medical man who served on a health committee under the National Insurance

Bill would under the proposed regulations be able to remain upon the panel of doctors appointed by the same health committee.—Mr. MCKINNON WOOD wrote in reply: Yes, sir, any duly qualified medical practitioner has the right to be included in the panel, which it is not quite accurate to describe as "appointed" by the health committee.

MONDAY, NOV. 27TH.

*The Wrapping of Sweets.*

Mr. EDMUND HARVEY asked the President of the Local Government Board whether his attention had been called to the conditions under which caramel wrapping was stated by the medical officer of Islington to be carried on in certain homes; whether he was aware that the work was done by persons suffering from infectious diseases and was therefore calculated to convey infection to the consumer; and whether any steps were being taken to deal with the matter.—Mr. MCKENNA said in reply: My right honourable friend has asked me to answer this question. The Home Office received from the medical officer of health of Islington a copy of his report on this matter, and inquiries have since been made into the conditions prevailing in this industry both in London and elsewhere. It appears that the work carried on in the cases referred to by the medical officer is not the wrapping of caramels, which owing to their soft nature could not be given to outworkers, but the wrapping of some kinds of cheap sweets. Only one maker has been found who employs outworkers on this work, and he employs some 30 or 40 outworkers under conditions which in many cases are extremely insanitary, and in some cases carry danger of infection. I propose to issue at once a draft Order extending the provisions of Sections 107, 108, and 110 of the Factory Act to this class of work.

*Medical Officers to the Post Office.*

Mr. EDMUND HARVEY asked the Postmaster-General whether the appointments of medical officers to the Post Office were regarded as political patronage, and whether, to avoid misunderstanding, he would arrange that public notice should be given before local appointments were made, enabling all duly qualified candidates to apply.—Mr. H. SAMUEL replied: Political influence is not allowed to enter into the selection of medical officers to the Post Office. Appointments are made solely with regard to the personal qualifications of the candidates and the proximity of their consulting-rooms to the Post-office premises. Vacancies for medical officers to the Post Office in the London district are advertised in the local press. In the provinces applications are generally invited from all suitable local medical practitioners.

TUESDAY, NOV. 28TH.

*Malaria-bearing Mosquitoes at Port Said.*

Mr. RAMSAY MACDONALD asked the Secretary of State for Foreign Affairs whether he had received information that malaria-bearing mosquitoes had reappeared at Port Said owing to the negligence of the sanitary authorities; and whether he would communicate with Lord Kitchener on the subject.—Sir EDWARD GREY said in reply: I have been informed that mosquitoes have reappeared at Port Said, but I cannot say owing to what cause, nor do I know whether they are of a malaria-bearing species. I am inquiring of Lord Kitchener as to the facts.

*Certifying Surgeons.*

Lord HENRY CAVENDISH-BENTINCK asked the Secretary of State for the Home Department how many certifying surgeons hold other public appointments, including all the public medical officers mentioned in the memorandum of the Local Government Board to the local authorities issued in December, 1910.—Mr. MCKENNA replied: I regret that I am not able to give the noble lord the information he asks for, but the figures of certifying surgeons in England and Wales holding the posts of medical officer of health and district medical officer is as follows:—The number of certifying surgeons holding both posts is 247; the number holding the post of medical officer of health only is 141; the number holding the post of district medical officer only is 502. The total number of certifying surgeons in England and Wales, apart from medical men appointed to act as certifying surgeon for an institution under Section 5 of the Factory Act of 1907, is 1280.

WEDNESDAY, NOV. 29TH.

*The Provision of Sanatoria.*

Mr. GOLDMAN asked the Secretary to the Treasury whether steps would be taken immediately after the passing of the Insurance Bill into law to increase or extend sanatoria throughout the country to meet the needs of those who would be entitled to immediate sanatorium benefit under the Bill, and if he could state the nature of the steps which would be taken.—Mr. MCKINNON WOOD answered: The answer to the first part of the question is in the affirmative. The precise nature of the steps to be taken depends upon the Insurance Commissioners and the Local Government Board.

## BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York and London.

The Diseases of Infancy and Childhood. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., Sc.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York. Assisted by John Howland, A.B., M.D., Professor of Diseases of Children in Washington University, St. Louis. Sixth edition, fully revised. Price, cloth, 25*s.* net.

BAILLIÈRE, TINDALL, AND COX, London.

A Manual of Diseases of the Eye. By Charles H. May, M.D., New York, and Claud Worth, F.R.C.S. Eng., Consulting Ophthalmic Surgeon to the West Ham and East London Hospital. Third edition. Price 10*s.* 6*d.* net.

CHURCHILL, J. AND A., London.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M.D. Lond., M.D. Dub. (Hon.), Senior Physician to and Lecturer on Medicine at Guy's Hospital. Twelfth edition. Price 6*s.* 6*d.* net.

A Short Practice of Medicine. By Robert A. Fleming, M.A., M.D., F.R.C.P.E., F.R.S.E., Lecturer on Practice of Medicine, School of the Royal Colleges, Edinburgh. Second edition. Price 12*s.* 6*d.* net.

CURRIE, JOHN, 16, Teviot-place, Edinburgh.

Outlines of Early Development. For Obstetric Students. By R. W. Johnstone, M.A., M.D., F.R.C.S.E., M.R.C.P.E., Assistant to the Professor of Midwifery, University of Edinburgh. With a Preface by Sir J. Halliday Croom, Professor of Midwifery, University of Edinburgh. Price 1*s.* 6*d.* net.

DULAU AND CO., LIMITED, 37, Soho-square, London, W.

Department of Applied Statistics, University College, University of London. Drapers' Company Research Memoirs. Studies in National Deterioration. VII. The Intensity of Natural Selection in Man. By E. C. Snow, M.A., Biometric Laboratory, University College, London. Price 3*s.*

GREEN, WILLIAM, AND SONS, Edinburgh and London.

The Control and Eradication of Tuberculosis. A Series of International Studies. By Many Authors. Edited by Halliday G. Sutherland, M.D., Medical Officer to the St. Marylebone Anti-Tuberculosis Dispensary. Price 15*s.* net.

HERBERT AND DANIEL, 21, Maddox-street, London, W.

Modern Surgery and its Making. A Tribute to Listerism. By C. W. Saleeby, M.D., F.R.S.E. Price 10*s.* 6*d.* net.

HODDER AND STOUGHTON, London, New York, and Toronto.

The Life of Dr. Arthur Jackson of Manchuria. By the Rev. Alfred J. Costain, M.A. With a Preface by the Rev. William Watson, M.A. Price 2*s.* net.

HORN, JOHN, LIMITED, 149, Howard-street, Glasgow.

Diet Charts. For the Use of Physicians. Part I. By J. Craik Taylor, M.B. Glasg. Price 1*s.* net.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, London.

Practical Hints for Pastoral Work Among the Sick. By H. Gordon Mackenzie, M.A., M.B.; and Notes and Suggestions on Visiting the Sick, together with Short Service and Private Devotions for the Sick. Compiled by Rev. Archibald O. Hayes, M.A., Vicar of Holy Trinity, Lambeth, and Hospitaller of St. Thomas's Hospital. With an Introduction by Sir Dyce Duckworth, Bart., M.D., LL.D. Price not stated.

LEONARD, W. M., Publisher, Boston.

Case Histories in Neurology. A Selection of Histories setting forth the Diagnosis, Treatment, and Post-mortem Findings in Nervous Disease. By E. W. Taylor, A.M., M.D., Instructor in Neurology, Harvard Medical School. Price not stated.

LEWIS, H. K., London.

A Handbook of the Diseases of the Eye and Their Treatment. By Sir Henry R. Swanzy, A.M., M.D., D.Sc., Past-President of the Royal College of Surgeons in Ireland; and Louis Werner, M.B., F.R.C.S.I., Sen. Mod. Univ. Dub., Ophthalmic Surgeon to the Mater Hospital, Dublin. Tenth edition. Price 12*s.* 6*d.* net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Text-book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorised Translation from the Twelfth Revised and greatly enlarged German Edition, with numerous Additions by Alexander Duane, M.D., Surgeon, Ophthalmic and Aural Institute, New York. Fourth edition. Price 25*s.* net.

MCGRAW-HILL BOOK COMPANY, 239, West 39th Street, New York. HILL PUBLISHING CO., LIMITED, 6 and 8, Bouverie-street, London, E.C.

Experimental General Chemistry. By James H. Ransom, Ph.D., Professor of General Chemistry, Purdue University. Second edition, revised. Price 4*s.* 6*d.* net.

Experiments for Engineering Students in General Chemistry. By Joseph H. James, B.S., Ph.D., Professor of Chemical Engineering, Carnegie Technical Schools, Pittsburgh; and John A. Schaeffer, A.M., Ph.D., Instructor in Chemical Engineering, Carnegie Technical Schools, Pittsburgh. Price 4*s.* 6*d.* net.

MACMILLAN COMPANY, THE, New York.

The Conquest of Nerves. By J. W. Courtney, M.D. Price 5*s.* 6*d.* net.

METHUEN AND CO., LIMITED, 36, Essex-street, London, W.C.

Circumstances or Character? Studies in Social Work. By Clement F. Rogers, M.A., Lecturer in Pastoral Theology, King's College, University of London. Price 3*s.* 6*d.* net.

Health Readings. By C. J. Thomas, M.B., B.Sc. Lond., D.Ph., University Scholar and Gold Medallist in Medicine. Price 1*s.* 6*d.*

OLIVER AND BOYD, Edinburgh.

The Transactions of the Edinburgh Obstetrical Society. Vol. XXXVI. Session 1910–1911. Price not stated.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

The Illustrated Medical Dictionary. By W. A. Newman Dorland, A.M., M.D. Sixth edition, revised and enlarged. Price 19*s.* net; with thumb index, 21*s.* net.

Minor and Emergency Surgery. By Walter T. Dannreuther, M.D., Surgeon to St. Elizabeth's Hospital and to St. Bartholomew's Clinic, New York City. Price, cloth, 6*s.* net.

SHERRATT AND HUGHES, 33, Soho-square, London, W.; 34, Cross-street, Manchester.

Unity in Nature. An Analogy between Music and Life. By C. E. Stromeyer, Past Member of the General Board of the National Physical Laboratory. Price 12*s.* 6*d.* net.

UNIVERSITY OF LONDON PRESS, London. (Published for the University of London Press, Limited, by Hodder and Stoughton, London.)

Infectious Diseases and Their Preventive Treatment. By E. C. Seaton, M.D. Lond., F.R.C.P., F.I.C., Consulting Medical Officer, Surrey County Council. Price 7*s.* 6*d.* net.

London Practitioners' Manuals. Minor Surgery. By Leonard A. Bidwell, F.R.C.S., Surgeon to the West London Hospital. Price 6*s.* net.

London Practitioners' Manuals. Anæsthesia and Analgesia. By J. D. Mortimer, M.B. Lond., F.R.C.S. Eng., Anæsthetist, Royal Waterloo Hospital. Price 6*s.* net.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BADLEY, S. B., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

BANNERMAN, JAMES, M.B. Edin., has been appointed Medical Officer to the Stanhope and Weardale Joint Isolation Hospital.

DIGGLE, F. H., M.B., Ch.B. Vict., has been appointed House Surgeon to Special Departments at the Manchester Royal Infirmary.

FARRIES, J. STOTHART, L.R.C.P. & S. Edin., has been appointed Medical Superintendent of the Minda Institution for the Feeble-minded and Epileptic, Adelaide, South Australia.

GALBRAITH, THOMAS, M.B Edin., has been appointed Honorary Vaccine Therapist to St. John's Hospital for Diseases of the Skin.

HENDERSON, ROBERT G., M.B., Ch.B. Aberd., F.R.C.S. Edin., has been appointed Assistant Surgeon to the Royal Infirmary, Oldham.

HIGGINS, T. T., M.B., Ch.B. Vict., has been appointed Accident Room House Surgeon at the Manchester Royal Infirmary.

KAUNTZE, W. H., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

MAITLAND, LYTTON, M.B., B.S. Lond., has been appointed Resident Medical Officer at the London Fever Hospital.

MORGAN, T., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Llandovery District of the county of Carmarthen.

PEDLER, H. C. G., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

PRANCE, G. H., M.D., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Weston-super-Mare District of the county of Somerset.

RAMSBOTTOM, A., M.D. Vict., M.R.C.P. Lond., has been reappointed Assistant Medical Officer to the Manchester Royal Infirmary.

REID, W. J., M.B., Ch.B. Aberd., has been appointed Cancer Research Officer at the Manchester Royal Infirmary.

RIGG, J. R., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

ROBSON, J. D., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dumfries District of the county of Dumfries.

SCOTT, J. B., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

SNEATH, W. A., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

THOMPSON, G. K., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

WILLAN, R. J., M.S. Durh., F.R.C.S. Eng., has been appointed Demonstrator of Surgical Pathology in the University of Durham College of Medicine, Newcastle-upon-Tyne.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, all found.

BATH, EASTERN DISPENSARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with rooms, coals, gas, and attendance.

BATH ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £200 per annum, with rooms, fire, light, and attendance.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 per annum, with board and washing.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with rooms, coals, gas, and attendance.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer, unmarried. Salary £90 per annum, with board, lodging, and washing.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Resident House Surgeon. Salary £50 per annum, with board and residence. Also Registrars and Clinical Assistants.

CROYDON GENERAL HOSPITAL.—Additional Member of Honorary Medical Staff.

DONCASTER, ROYAL INFIRMARY AND DISPENSARY.—Senior House Surgeon and Assistant House Surgeon. Salaries respectively £100 and £80 per annum, with board, lodging, and washing.

FLORENCE NIGHTINGALE HOSPITAL FOR GENTLEWOMEN, 19, Lissongrove, N.W.—House Surgeon. Salary £100 per annum.

GLASGOW, SCHOOL BOARD OF.—Female Lecturers on Hygiene and Home Nursing. 7*s.* 6*d.* per lecture.

GOVAN DISTRICT ASYLUM, Hawkhead, near Paisley.—Second Assistant Medical Officer. Salary £150 per annum, with rooms, board, laundry, and attendance.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, lodging, attendance, and washing.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.

HENDON, N.W., CENTRAL LONDON SICK ASYLUM.—Assistant Medical Officer. Salary £120 per annum, with board and residence.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Resident Medical Officer, unmarried, for six months. Salary £100 per annum, with full board and laundry.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £60 per annum, with board and lodging.

INDIAN MEDICAL SERVICE.—Twelve Commissions.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Assistant Physician.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Vacancy on the Honorary Medical Staff.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £75 per annum, with board, residence, and washing.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital. Also House Surgeon to Male Hospital. Salary in each case £100 per annum, with board, lodging, and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Surgical Registrar. Salary at rate of 40 guineas per annum. Also Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary £60 per annum.

NAPSBURY, MIDDLESEX COUNTY ASYLUM, St. Albans.—Assistant Medical Officer. Salary £180 per annum, with board, lodging, washing, and attendance.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

POPLAR WORKHOUSE, High-street, Poplar.—Medical Officer. Salary £250 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

ROYAL EAR HOSPITAL, Soho.—Honorary Visiting Physician. Also Honorary Pathologist.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Female Medical Registrar and Junior Obstetric Assistant.

ST. BARTHOLOMEW'S HOSPITAL.—Chief Assistants and Clinical Assistants for Aural Out-patient Department.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Honorary Physician.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion-square, W.C.—Clinical Assistants.

SALFORD UNION INFIRMARY.—Senior Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, attendance, and rations.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Junior Resident Medical Officer. Salary £60 per annum.

SHEFFIELD UNION HOSPITAL, Firvale, Sheffield.—Resident Medical Officer. Salary, if married, £375 per annum, with house partly furnished, coals, light, laundry, &c.; if single, £300 per annum, with apartments, rations, and the other usual residential allowances.

SHREWSBURY, COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £170 per annum, with board, apartments, washing, attendance, &c.

SUNDERLAND ROYAL INFIRMARY.—House Physician for six months. Salary £80 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board, washing, and attendance.

THROAT HOSPITAL, Golden-square, W.—Honorary Assistant Surgeon.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM FOR THE INSANE.—Junior Assistant Medical Officer (female). Salary £150 per annum, with board, lodging, laundry, attendance, &c.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140 per annum, with board, &c.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Assistant Honorary Surgeon in the Eye, Ear, and Throat Departments.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Kingsbridge, in the county of Devon; at Longtown, in the county of Cumberland; and at Chatham, in the county of Kent.

# Births, Marriages, and Deaths.

## BIRTHS.

DOW.—On Nov. 26th, at Bentham, Yorks, to James Fleming Dow, M.D., and Catherine Dow—a daughter.

HUGHES.—On Nov. 26th, at Barnsley Hall, Bromsgrove, Worcestershire, to Dr. and Mrs. Percy T. Hughes—a daughter.

## MARRIAGES.

BREMER–MCKENZIE.—On Oct. 14th, at St. George's Presbyterian Church, Johannesburg, Karl Bremer, M.B., B.S. Lond., of Cradock, Cape Province, to Alice Elizabeth, eldest daughter of Mr. and Mrs. Thos. McKenzie, Johannesburg.

## DEATHS.

HUBERT.—On Nov. 22nd, suddenly, of heart failure, at Billingshurst, Sussex, William Henry Hubert, M.R.C.S. Eng., L.S.A., aged 66.

MARTIN.—On Nov. 23rd, at Claremont-place, Sheffield, John W. Martin M.D., aged 65.

# Notes, Short Comments, and Answers to Correspondents.

## VITAL STATISTICS OF SEYCHELLES.

ACCORDING to the Blue-book for 1910 of the Seychelles Islands (the total area of which is estimated at 148½ square miles) the population is 22,620—11,522 males and 11,098 females. The births during the year numbered 709, being 31·35 per 1000, and the deaths 368, being 16·26 per 1000. There were 119 marriages. The density of the population is 145 to one square mile. The rainfall was again short, reaching only 83·31 inches. There was a severe drought from June to October. In the latter month only 0·03 inch was recorded. The mean temperature was 79·5°. April was the hottest and August the coolest month of the year. There were 480 in-patients treated in the Victoria Hospital in 1910, exceeding by 100 the number in 1909, which was the highest recorded. There were 30 deaths, giving a percentage of 6·25. Sixteen persons suffering from beri-beri were treated, of whom three died. This disease appears to be decreasing rapidly with the use of nitrogenous foods. There were 11 cases of, and three deaths from, tubercular complaints, and two deaths out of eight cases of cancer. There are six dispensaries, at which 3195 persons received treatment. The numbers show a large decrease (25 per cent.), which is satisfactory, inasmuch as it has always been evident that the privilege of free treatment has been abused. A small outbreak of beri-beri on Coetivy Island was promptly checked by a change of diet amongst the labourers. An assistant medical officer visited the island, and with the substitution of Bengal for Rangoon rice no further cases occurred. The chief medical officer notes that all previous cases were of the œdematous type, while all the cases from Coetivy were of the emaciated type. Tuberculosis appears to be stationary, but the medical officers report an increase in venereal disease and in the number of infants suffering congenitally. Nine cases were treated in the Round Island Leper Asylum with one death. The home is well kept and is constantly visited by the assistant medical officer at Praslin. Experiments are being made with the new treatment—nastin. These experiments are of too recent a date for any pronouncement to be made, but the patients take readily to the treatment. The lunatic asylum is now in full working order. Two males and one female were discharged as recovered, one male patient died, and 22 patients remained at the close of the year.

## ROYAL MICROSCOPICAL SOCIETY: AN INTERESTING FIND.

AT the meeting of this society on Nov. 15th Mr. C. F. Rousselet, the curator, exhibited and described an old microscope bearing the name of Andrew Pritchard, which Captain Warrington had discovered in India and had presented to the society. It was probably made by Andrew Ross for Pritchard, who sold microscopes made for him by Ross and Hugh Powell. The date to be assigned to it would be between 1834 and 1838. Mr. Rousselet also described another microscope from India lent by Mr. A. H. Lethbridge. It was a combination of a pocket telescope and microscope. The eyepiece of the telescope, being removed and screwed into a "drum" form of stand, constituted a low power microscope of itself, and on removing the field lenses of the eyepiece "French buttons" can be screwed on giving higher magnifications. The name inscribed on the apparatus is Charles Nephew and Co., Calcutta. The date is uncertain, but would be some time after the introduction of the "French button." The society exhibited under microscopes a number of slides of rock sections from Australasia presented by Mr. H. J. Grayson and cut by him by his improved apparatus. Mr. J. E. Barnard read a paper on a Geometric Slide Photomicrographic Apparatus. Mr. Barnard said the apparatus was designed throughout on the principle of the geometric slide as enunciated by Lord Kelvin and Tate. The base of the apparatus was formed of two castings designed on the girder principle, braced together at each end and in the middle. The portion to carry the microscope was also formed by a pair of castings braced together in the same way. Great rigidity was obtained, and the whole apparatus would move together if subjected to shock or vibration. Rods were fastened down on the top of the castings to support the apparatus, and the camera slid along these on two V grooves on one side and on a plane surface on the other side. The camera was supported on vertical rods fixed on the geometric slides. The apparatus could be used equally well as a horizontal or vertical camera or at an angle of 45°. A paper on Fridericia by Rev. Hilderic Friend, F.L.S., was read. The genus Fridericia was created by Michaelson in 1889 to receive certain species of Enchytraeids, 11 in number, possessed of dorsal pores and having sets of unequal lengths. In 1895 Beddard reckoned 12 species, but not one was known as British. Moore, Friend, and others added to the list, which in 1900 stood at 21. Bretscher, Issel, and others then took up the study, and at the present time some 70 or 80 species of Fridericia are known to science. The largest is F. magna, Friend, which has been found in England, Ireland, and Scotland, but so far has not been reported abroad. The author, whose researches into this genus began in 1896, here reports no fewer than 30 species found up to the present time in the British Isles. Some of these are new to science, and a series of keys is appended to enable the student readily to distinguish the allied species.

## THE GUILD OF THE BRAVE POOR THINGS.

H.R.H. Princess Louise, Duchess of Argyll, has promised to visit the exhibition and sale to be held in support of the Guild at 19, Grosvenor-square, by kind permission of Mrs. Cazalet, on Monday, Dec. 4th, from 3 to 6 P.M. The sale will include fine needlework and woodwork from the Heritage Craft Schools in Sussex, of which Mrs. Cazalet is the patroness, and copper, silver, and basket-work made by Guild members at the various branches. The Guild of Play children will give a recital of dance carols and court dances at 6 P.M.

## GUARDIANS AND PRIVATE PATIENTS.

THE Lewisham board of guardians recently considered an interesting point concerning a woman of whom it was reported by the clerk to the board that she was not destitute, although it had been decided that she should be attended by the district medical officer. On her decease it was ascertained that she had left a sum of money amounting to £60, and her relative, who benefited under the will, had refunded to the board £3 3s. for the doctor's attendance. It was argued that the fees should be handed over to the district medical officer as the board had no right to make a profit out of persons o means, who should be the private patients of the medical profession. The board, however, decided to take no action.

## ESPERANTO.

MEDICAL Esperantists, both in this country and abroad, will regret to hear that, owing to pressure of duties, Colonel John Pollen, C.I.E., has resigned the presidency of the British Esperanto Association.

**COMMUNICATIONS not noticed in our present issue will receive attention in our next.**

## A DIARY OF CONGRESSES.

**WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for the next few months:—**

Dec. 4th–9th (Havana, Cuba).—American Public Health Association.
" 12th–14th (Washington, D.C.).—Southern Surgical and Gynecological Association.
" 19th–23rd (Moscow).—Third Pan-Russian Therapeutical Congress.
" 27th–30th (Baltimore).—American Physiological Society.

In 1912:—
Jan. 20th–27th (Hong-Kong).—Second Biennial Congress of the Far Eastern Association of Tropical Medicine.
Feb. 13th–14th (London).—Central Poor-Law Conference.
March 7th–11th (Berlin).—Thirty-third Balneological Congress.
" 23rd–April 4th (London, Royal Agricultural Hall).—International Smoke Abatement Exhibition.
" (London).—First Congress of Pure Food and Health Society of Great Britain.
April 1st–7th (Tunis).—Twenty-second Congress of French-speaking Alienists and Neurologists.
" 14th–20th (Rome).—Seventh International Congress on Tuberculosis.
" (Rome).—Seventh International Congress of Dermatology and Syphilology.
" (Giessen).—Congress on Study of Families, Inheritance, and Race Hygiene.
Spring (London).—Second Optical Convention.
May 7th–17th (Washington).—Ninth International Red Cross Conference.
" 27th–June 1st (London).—Eighteenth International Congress of Americanists.
" (London).—International Horticultural Exhibition.
June 24th–27th (London).—The (Biennial) Health Conference and Exhibition.
June (London).—Missionary Exhibition.
July 2nd–5th (London).—Congress of the Universities of the Empire.
" 2nd–6th (Doncaster).—Seventy-third Annual Show of the Royal Agricultural Society of England.
" 12th–16th (London).—Imperial Conference of Teachers' Associations.

**The following journals, magazines, &c., have been received:—** Archives de Médecine et Pharmacie Navales, La Clinique Ophtalmologique, Review of Neurology and Psychiatry, Quarterly Journal of Microscopical Science, Annales de l'Institut Pasteur, Medical Review of Reviews, Therapeutic Gazette, Journal of Nervous and Mental Diseases, Archives of Internal Medicine, Revue d'Hygiène, Pacific Medical Journal, Journal of Physiology.

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).**

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—J. C. G. Ledingham, A. E. Boycott): at 8.30 P.M.

LABORATORY MEETING at the Imperial Cancer Research Fund, Victoria Embankment, West Entrance (opposite Savoy Hotel).

Dr. J. A. Murray: (1) Relative Frequency of Cancer of the Mammæ in Mice of Cancerous and Non-cancerous Ancestry; (2) Results of Inoculating a Mixed Emulsion of Spontaneous Tumours into the Mice Providing them; (3) Results of Operative Treatment of Carcinoma Mammæ in the Mouse; (4) Tumours showing Multiple Differentiations—Metaplasia.

Dr. B. R. G. Russell: (1) The Reaction of Animals to Tumour Parenchymata of Various Types of Growth; (2) Failure to Obtain Evidence for Passive Immunity against the Inoculation of Cancer.

Mr. W. H. Woglom: (1) The Curves of Resistance to the Implantation of Carcinoma as Induced by Normal and Tumour-Tissue respectively; (2) The Histology of the Site of Inoculation of Carcinoma in Normal and Resistant Rats; (3) Resistance Induced Subcutaneously to the Implantation of Cancer is Effective against Implantation into Internal Organs.

Dr. E. F. Bashford: (1) The Modes of Growth and the Relative Rates of Growth of 85 Propagable Tumour-strains; (2) The Experimental Test of the Validity of the Assumption of a Differential of Avidity as Explanatory of Tumour Growth; (3) The Variability of Tumour Cells during Propagation.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—J. H. Targett, W. W. H. Tate), at 11, Chandos-street, W., at 8 P.M.

*Specimens:*

Dr. Hedley: Cervix Adherent to Posterior Vaginal Wall.

Dr. Barris; Solid Malignant Growth of Ovary.

Dr. Macnaughton-Jones: (1) Section of Carcinoma of Vulva; (2) Cyst Growing from Remains of a Resected Ovary.

Dr. Walter Tate: Extra-uterine Gestation; Death of Fœtus near Term; Removal of Entire Sac Three Months Later.

Dr. Whitehouse: Ruptured Four Months' Gestation in Rudimentary Horn of Bicornuate Uterus.

Dr. Maxwell: Chorion-angioma of Uterus.

Dr. Herman: A Dissection of the Pelvic Fascia.

*Short Communications:*

Dr. Maxwell: Sequel to a Case of Cystic Degeneration of Chorion.

Dr. Eardley Holland: Case of Ovarian Pregnancy.

Dr. Whitehouse: Cases of Primary Carcinoma of Female Urethra.

FRIDAY.

GENERAL MEETING OF FELLOWS at 4.45 P.M.

Election of Candidates for Fellowship.

CLINICAL SECTION (Hon. Secretaries: James Galloway, Charles H. Fagge): at 8.30 P.M.

*Cases:*

Mr. Tilley: Four Cases illustrating Surgical Treatment of Chronic Empyema of the Nasal Accessory Sinuses. Demonstration by Direct Method of Papillomata of the Vocal Cords.

Mr. H. Morriston Davies: Case showing the Result of Operation for Dislocation of Patella.

Mr. H. J. Curtis: Case of Acute Periostitis of Rib with Separation of Sequestra (Non-tuberculous, Non-traumatic).

Mr. Edred M. Corner: Case of Healed Double Empyema.

Mr. R. P. Rowlands: Case of Perforated Jejunal Ulcer following Anterior Gastro-jejunostomy.

Mr. C. G. Watson: Case of Excision of Large Myeloid Sarcoma of the Ischium.

Cases will also be shown by Dr. J. Fawcett, Mr. Raymond Johnson, and others.

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**RONTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C.**

TUESDAY.—8.15 P.M., General Meeting. Paper:—Prof. W. H. Bragge: The Energy of the X Ray.

**HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.**

WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Clinical and Pathological Evening.

**NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.**

THURSDAY.—4.15 P.M., Clinical Cases.

**WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon.**

FRIDAY.—9 P.M., Dr. R. W. Allen: Modern Methods of Treating Tuberculosis, with Special Reference to Pulmonary Tuberculosis and Tuberculins.

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## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.**

WEDNESDAY.—5 P.M., Mr. R. Clement Lucas: Some Points in Heredity. (Bradshaw Lecture.)

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.**

MONDAY.—4 P.M., Dr. J. L. Bunch: Clinique (Skin). 5.15 P.M., Lecture:—Dr. D. Forsyth: The Diagnosis of Organic Nervous Lesions.

TUESDAY.—4 P.M., Dr. W. H. Willcox: Clinique (Medical). 5.15 P.M., Lecture:—Mr. E. Lane: Syphilis d'Emblée.

WEDNESDAY.—4 P.M., Mr. G. E. Waugh: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. R. Maguire: The Solution of Calculi in the Urinary Passages without Operation.

THURSDAY.—4 P.M., Dr. H. Campbell: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. D'Oyly Grange: Some Disorders of the Liver and their Treatment.

FRIDAY.—4 P.M., Dr. G. Thompson: Clinique (Eye).

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.**

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: Gastro-enterostomy and Duodenal Ulcer.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Etherington-Smith: Clinical. (Lecture I.)

WEDNESDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine. (Lecture V.)

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery. (Lecture V.)

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. R. Lloyd: Administration of Anæsthetics.

SATURDAY.—10 A.M., Medical Registrar: Demonstration of Cases in Wards. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

**LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.**

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Mr. Walton: Abdominal Anatomy.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.**

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Pathological Demonstration (Dr. Duncan).

TUESDAY.—Clinic: 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. A. E. Giles: Pessaries.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen): Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Pathological Demonstration (Dr. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Pathological Demonstration (Dr. Duncan).

**ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.**

TUESDAY.—6 P.M., Mr. W. Hampson: X Ray Epilation for Ringworm.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell; Bullous and Vesicular Eruptions—I., Urticaria; II., Pemphigus; III., Pompholyx; IV., Varicella.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.** Brompton, S.W.

WEDNESDAY.—4 P.M., Lecture:—Dr. Perkins: Some Clinical Effects of Tuberculin.

**NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,** Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Stewart: Treatment of Muscular Paralysis.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Stewart: Apoplexy.

**CENTRAL LONDON THROAT AND EAR HOSPITAL,** Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. J. G. French: Pharynx and Naso-pharynx.

FRIDAY.—3.45 P.M., Lecture:—Dr. Abercrombie: Pharynx and Naso-pharynx.

**ANCOATS HOSPITAL,** Manchester.

THURSDAY.—4.15 P.M., Dr. C. H. Melland: Malaria. (Post-Graduate Clinic.)

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY** (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

**TUESDAY** (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

**WEDNESDAY** (6th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**THURSDAY** (7th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**FRIDAY** (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**SATURDAY** (9th).—Royal Free (9A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

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*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Nov. 29th, 1911.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rain fall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| Nov. 23 | 29·65 | N.E. | ... | 48 | 44 | 36 | 40 | 42 | Overcast |
| ,, 24 | 29·86 | E. | 0·03 | 51 | 44 | 41 | 40 | 41 | Overcast |
| ,, 25 | 29·97 | N.E. | ... | 52 | 44 | 41 | 40 | 41 | Overcast |
| ,, 26 | 29·93 | N.E. | ... | 63 | 40 | 35 | 34 | 36 | Cloudy |
| ,, 27 | 29·84 | S.E. | 0·01 | 43 | 41 | 35 | 36 | 36 | Overcast |
| ,, 28 | 30·03 | S.E. | 0·09 | 51 | 50 | 36 | 41 | 41 | Foggy |
| ,, 29 | 30·25 | S.W. | 0·01 | 62 | 51 | 41 | 46 | 46 | Overcast |

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